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LMI

LABOR MARKET INFORMATION for IOWA

IOWA DEPARTMENT OF EMPLOYMENT SERVICES

DEPARTMENT OF EMPLOYMENT SERVICES

DES

DEDICATED TO EXCELLENCE IN SERVICE

LABOR MARKET INFORMATION FOR IOWA

DEPARTMENT OF EMPLOYMENT SERVICES
1000 EAST GRAND AVENUE
DES MOINES, IOWA 50319

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PREFACE

The Iowa Department of Employment Services (DES) wishes to thank the many employers who volunteered occupational and employment information for their industries through various surveys. These valuable data are combined with various other employment information collected by state and federal agencies. The combined information provides the backbone for projecting the growth in demand for more workers in Iowa's labor market.

The Department of Employment Services is fully committed and dedicated to a policy of equal employment opportunity for all in recruitment, examination, appointment, training, promotion, retention, discipline and any other aspect of personnel administration, without any consideration for race, color, creed, age, sex, political or religious affiliations or national origin. Discrimination on the basis of age or sex or physical or mental disability is prohibited except where specific age, sex or physical or mental requirements constitute a bona fide occupational qualification necessary for proper and efficient administration.

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INTRODUCTION

Purpose

This volume shows what has happened in the labor market during the recent past so that businesses and individuals can make decisions regarding their role in Iowa's economy. Considerable history and detail about the labor supply is available, and general information about labor demand is presented.

Historical Development of Labor Market Information (LMI) for Iowa

In 1982, the Job Training Partnership Act (JTPA) replaced the federal work program known as Comprehensive Employment Training Act (CETA). JTPA requires a comprehensive labor market information system and in Iowa, the Honorable Terry E. Branstad, Governor, has designated the Department of Employment Services as the responsible agency for implementing this system.

The Department of Employment Services (DES) began operations in July 1986 when reorganization of state government resulted in consolidation of many previously separate state agencies. At that time, three state government operations, Job Service of Iowa, the Bureau of Labor, and the Office of the Iowa Industrial Commissioner, became DES divisions.

Scope

The status of Iowa's labor market will be illustrated by presenting information about labor force characteristics, employment by industry, employment by occupation, labor supply/demand, income, and factors which affect Iowa's economy.

LMI for Iowa provides much statewide information about the labor market, and some data relating to counties and Service Delivery Areas (SDA's). Information for specific areas has been developed in other publications which are available at no charge from the Labor Market Information Unit, Iowa Department of Employment Services (DES).

Uses for LMI for Iowa

LMI for Iowa can be used to gauge the economic climate, to learn about the kinds of industries and occupations providing work, and to become familiar with occupational characteristics such as labor supply and demand and the job outlook. Merchants, real estate developers, local and state government officials can use this information for economic planning. Educators, students, and workers may use LMI for Iowa for curriculum and career planning.

SECTION 1

DESCRIPTION OF THE IOWA DEPARTMENT OF EMPLOYMENT SERVICES

DESCRIPTION OF IOWA DEPARTMENT OF EMPLOYMENT SERVICES

Department of Employment Services Includes Three Divisions

The Department of Employment Services (DES) includes three divisions, each headed by a commissioner. The divisions and their areas of responsibility are:

Division of Industrial Services - Administers, regulates, and informs the public regarding Iowa workers' compensation, occupational disease and occupational hearing loss laws. These laws are designed to provide, in most types of employment, certain benefits to eligible employees who receive injuries or illnesses in connection with their employment activities. David E. Linquist is commissioner of the division.

Division of Labor Services - Protects the safety and health needs of Iowa workers and the general public. This division administers worker protection legislation including OSHA, the child labor law, "Right-to-Know" law regarding hazardous chemicals in the workplace, employment agency licensing, wage payment collections, safety and licensing of amusement park rides, and boiler and elevator safety. Commissioner Allen J. Meier heads the division.

Division of Job Service - Administers job insurance for workers and employers as well as job placement functions through a statewide network of over 60 Job Service offices. The division conducts various job training programs and cooperates with the efforts of the Job Training Partnership Act (JTPA) program and associated economic efforts. Job Service also works with other state agencies to serve displaced homemakers, disabled workers, youth, veterans and retired Iowans. Richard G. Freeman, the DES director, also serves as Job Service commissioner.

Both Job Placement (JP) and Job Insurance (JI) services are available at each of the sites. In addition, the DES functions as a Labor Market Information (LMI) delivery system for the state and all of its counties. Much of the data presented in this and other reports are generated as a by-product of JP and JI activities throughout Iowa. The majority of this information relates to the demographic characteristics of applicants and claimants (e.g. age, race, and sex), in addition to their occupational classifications. Also, occupational and wage data are available from job openings which have been listed with all offices in the state.

Because Job Service serves nearly 279,000 applicants, in addition to a monthly average of 17,864 Job Insurance claimants, the agency has been able to collect data on a large sample of the population of Iowa. In addition, Iowa employers listed 79,384 openings (in excess of 150 days in duration) with the agency during calendar year 1988. This information does not include all the vacancies available in Iowa because employers may use other sources to find workers. However, as a result of this large volume of employers and applicants who utilize the agency,

the Job Service Division is able to collect data on an excellent cross section of job seekers and openings which are available in the state.

The Department of Employment Services also conducts the Occupational Employment Statistics (OES) survey (in cooperation with the Bureau of Labor Statistics), which is the primary component of occupational projections.

The OES program is designed to meet the needs of planners, educators, state employment security agencies and many others in government and private industry concerned with human resource development. Some of the important uses of this data are:

1. Education and Training Planning

   -for assessment of current and future occupational needs
   -for evaluation and development of study and training programs in relation to employment requirements
   -for accommodation to technological, economic and other changes

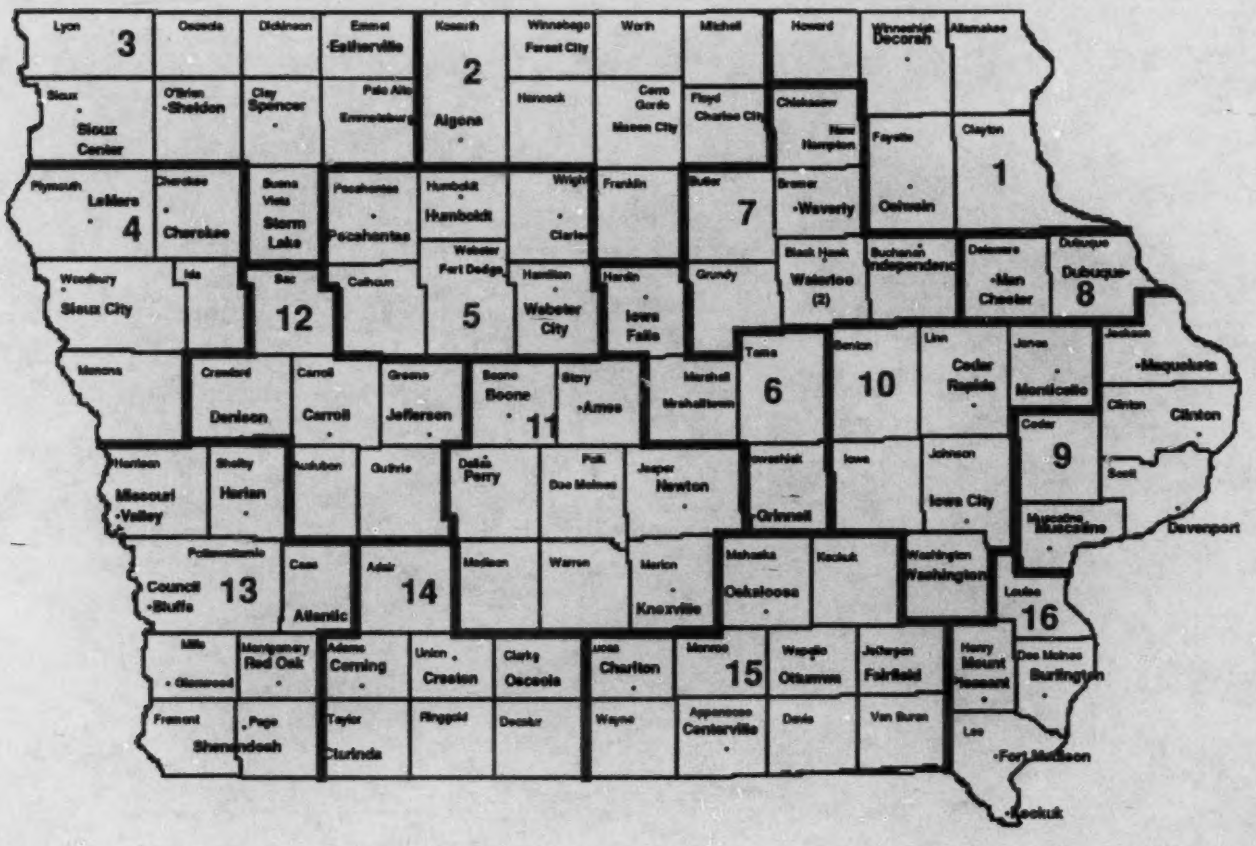
2. Career and Job Counseling

   -for improved worker selection by providing a larger supply of better trained workers, as a result of educational training and recruiting programs attuned to occupational needs.
   -for formulation of policies, plans and goals in relation to present and future occupational patterns
   -for adjustment to new technologies and other changes
   -for identification of markets for products and services.

A detailed discussion of the OES survey may be found in Section 5, "Employment by Occupation".

Another survey which is conducted by the Job Service Division is the Current Employment Statistics (CES) survey. It provides Job Service with monthly data from thousands of employers and includes details about the number of people employed, the hours worked per week, and the level of earnings. This information is very useful for estimating the monthly employment for each industry classification for all of the counties and aids employment program administrators in the use of available funding resources.

JOB SERVICE FIELD OFFICES / SERVICE DELIVERY AREAS



SECTION 2

IOWA'S ASSETS

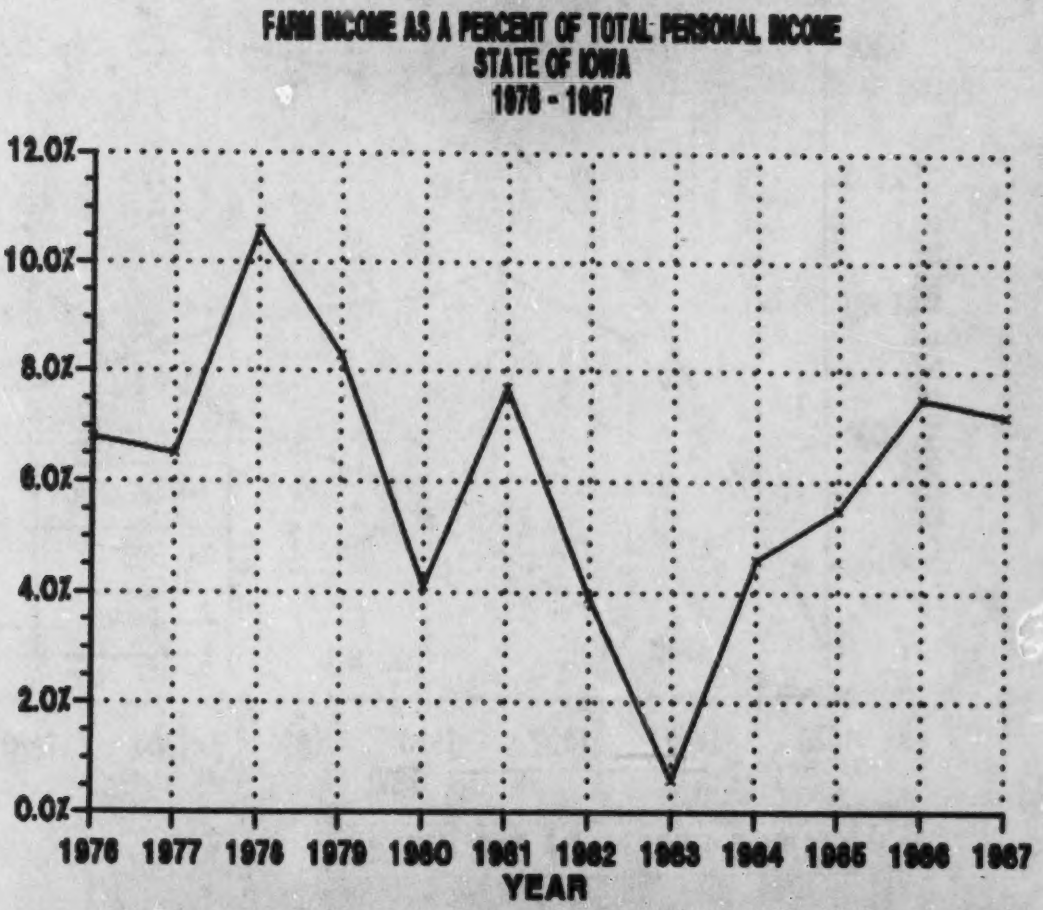
IOWA'S ASSETS

A. Land and Agriculture

Rich soil, a long growing season and good rainfall are the resources which attracted settlers to Iowa. During the 19th century the rapidly growing national and international requirements for food were largely met by Iowa's rapid developments in farm mechanization, crop and livestock production, tremendous growth in horticultural and animal science technologies and the resultant explosion of productivity on the farm.

In 1987, Iowa's farmers received 7.2 percent of statewide annual personal income. The agriculture-related industries such as grain storage and milling, meat and grain processing, farm machinery manufacturing, agricultural chemical production, transportation, and farm supplies account for an even greater share of Iowa's annual income.

CHART 2.1

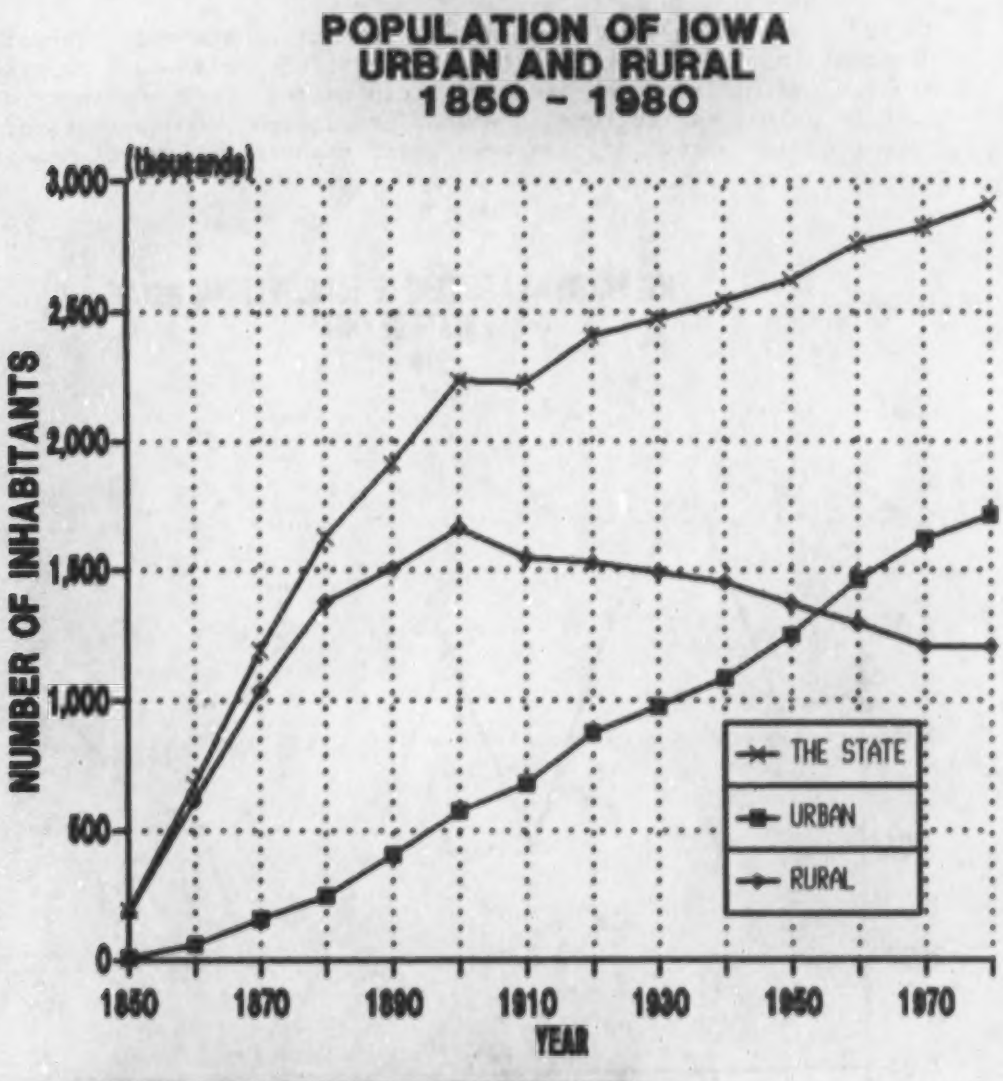


SOURCE: U.S. DEPARTMENT OF COMMERCE, BUREAU OF ECONOMIC ANALYSIS

B. Population

Iowa is traditionally considered a rural state. However, the number of inhabitants who live outside of towns and cities has been declining for most of this century. The decade of the nineteen-seventies was the only period since 1890 that the rural population of Iowa did not decrease. In contrast, until 1980, the history of the urban portion of the state was one of unbroken growth. In terms of population, Iowa became an urban state between 1950 and 1960. In 1980, more than 57 percent of its inhabitants lived in cities and towns.

CHART 2.2



SOURCE: BUREAU OF THE CENSUS.

As of the 1980 census, the ten largest cities in Iowa were:

Des Moines	191,003
Cedar Rapids	110,243
Davenport	103,243
Sioux City	82,003
Waterloo	75,985
Dubuque	62,321
Council Bluffs	56,449
Iowa City	50,508
Ames	45,775
Cedar Falls	36,322
	813,852

These cities accounted for 28 percent of Iowa's 2,913,808 inhabitants.

In 1988, two major phenomena regarding Iowa's population after 1980 had become apparent; (a) there had been a net loss in population for a period of time, and (b) the population drain had subsided.

Although the shifts in population are difficult to project until the next census, there are some other indicators which reveal trends.

The Iowa Association of Electric Cooperatives has experienced a steady decline in membership of almost one percent per year since 1980.

Another indicator is the changing number of kindergarten through 12th grade students. There was a steady decline in school population since 1970, as families became smaller and fewer in number since then.

It is not unusual for college graduates to leave Iowa in large percentages, but there is concern that they began leaving in higher-than-usual rates during recent years. College enrollments continued to increase at the major universities during the 1980's, with graduate out-placements (placements outside of Iowa) occurring at a steady rate in some fields, and at a higher rate in other fields. For example, out-placements for the College of Science and Humanities at Iowa State University have averaged 55 percent in recent years. In 1982-83, 68 percent of the ISU engineering placements were out of Iowa and during the last five years this percentage has ranged between 81 and 84 percent.

Last year at the University of Iowa over 60 percent of the business and liberal arts placements were made for positions away from Iowa. Likewise, 53 percent of education placements, 68 percent of engineering and 62 percent of law placements were out of Iowa.

People were not only shifting from rural areas to cities, but they also had moved away from Iowa in unusually large numbers. This mobility was noted from all areas of the state; farms, rural towns, and cities alike, and was largely a result of the economic downturns experienced by agribusiness and manufacturing. The exodus consisted of displaced farmers, laid off factory workers, retirees, and graduating college students.

By late 1987, Iowa had embarked on measurable economic recovery, and a year later, there were indications that population out-migration had slowed. The net population began to slowly increase.

The following charts indicate the current trend in size of Iowa's population.

Table 2.1 shows a modest increase of population between 1980 and 1991 for Iowa. At the time this table was prepared it was not possible to measure the population loss that Iowa experienced during this decade. This accounts for population totals on this table which may disagree somewhat with projections which are based on more recent data. The increases projected for the 25-39 year age groups might have been larger had the state not experienced increased out-migration of displaced workers and school graduates in the mid-1980's. For example, the large group aged 25-29 years of age in 1980 will have joined the 35-39 age group in 1990 but by then, an unusually high number of them will seek employment in other states. If the movement of workers had not been anticipated, the 1990 projected total of 35-39 age group would have been higher.

The demographic detail of this table includes factors such as births, deaths, migration and immigration. These provide the basis for the age distributions.

The large loss in the 15-19 year olds reflects the fact that Iowa and the nation began having fewer children per family twenty years ago.

Many persons aged 20-24 are leaving Iowa to find employment, accounting for the 13,031 decrease in that age group. College graduates and military enlistees account for much of this group.

The rate of outmigration is not expected to apply to minorities as it does to the white population, possibly because of traditionally stronger ethnic ties to neighborhoods. Because of policies and programs, many Southeast Asians continue to immigrate to Iowa. The group classified as "other minorities" is therefore growing faster than Iowa's population of black residents.

A more comprehensive discussion of Iowa's population components is presented in Section 3, Labor Force Characteristics.

TABLE 2.1

CIVILIAN POPULATION BY AGE, RACE, AND SEX
STATE OF IOWA
1980 - 1991

AGE AND RACE	POPULATION 1980 TOTAL	MALE	FEMALE	POPULATION 1990 TOTAL	MALE	FEMALE	POPULATION 1991 TOTAL	MALE	FEMALE	CHANGE 1980 TO 1991 TOTAL	MALE	FEMALE
TOTAL	**2,913,808**	**1,418,972**	**1,494,836**	**2,933,203**	**1,426,404**	**1,506,799**	**2,938,897**	**1,429,173**	**1,509,724**	**25,089**	**10,201**	**14,888**
UNDER 15	664,279	342,664	321,615	678,392	345,862	332,530	679,709	346,534	333,175	15,430	3,870	11,560
15-19	277,693	140,178	137,515	212,472	107,779	104,693	212,883	107,988	104,895	-64,810	-32,190	-32,620
20-24	271,734	135,549	136,185	258,203	129,725	128,478	258,703	129,977	128,726	-13,031	-5,572	-7,459
25-29	241,119	122,467	118,652	261,287	129,711	131,576	261,795	129,963	131,832	20,676	7,496	13,180
30-34	208,686	105,129	103,557	234,590	118,195	116,395	235,045	118,424	116,621	26,359	13,295	13,064
35-39	161,873	79,858	82,015	201,394	100,865	100,529	201,785	101,061	100,724	39,912	21,203	18,709
40-44	140,755	69,614	71,141	156,578	76,779	79,799	156,883	76,928	79,955	16,128	7,314	8,814
45-49	135,078	65,340	69,738	132,532	64,979	67,553	132,788	65,104	67,684	-2,290	-236	-2,054
50-54	146,215	71,458	74,757	128,367	61,939	66,428	128,616	62,059	66,557	-17,599	-9,399	-8,200
55-59	144,553	69,612	74,941	138,847	67,617	71,230	139,120	67,750	71,370	-5,433	-1,862	-3,571
60-64	134,341	62,618	71,723	143,777	69,157	74,620	144,055	69,291	74,764	9,714	6,673	3,041
65-69	117,663	53,195	64,468	134,074	62,469	71,605	134,335	62,591	71,744	16,672	9,396	7,276
70-74	99,018	41,696	57,322	117,474	52,885	64,589	117,702	52,987	64,715	18,684	11,291	7,393
75 +	170,801	59,594	111,207	135,216	38,442	96,774	135,478	38,516	96,962	-35,323	-21,078	-14,245
WHITE	**2,824,427**	**1,371,958**	**1,452,469**	**2,832,867**	**1,373,641**	**1,459,226**	**2,838,372**	**1,376,311**	**1,462,061**	**13,945**	**4,353**	**9,592**
UNDER 15	634,362	324,702	309,660	647,427	327,222	320,205	648,685	327,858	320,827	14,323	3,156	11,167
15-19	267,556	135,247	132,309	202,780	102,841	99,939	203,174	103,041	100,133	-64,382	-32,206	-32,176
20-24	261,574	130,204	131,370	248,082	124,771	123,311	248,564	125,014	123,550	-13,010	-5,190	-7,820
25-29	232,204	117,736	114,468	251,076	124,394	126,682	251,564	124,636	126,928	19,360	6,900	12,460
30-34	201,648	101,619	100,029	225,465	113,358	112,107	225,903	113,578	112,325	24,255	11,959	12,296
35-39	157,602	77,857	79,745	194,048	97,155	96,893	194,425	97,344	97,081	36,823	19,487	17,336
40-44	136,997	67,759	69,238	151,907	74,559	77,348	152,203	74,704	77,499	15,206	6,945	8,261
45-49	132,048	63,986	68,062	128,709	63,108	65,601	128,958	63,230	65,728	-3,090	-756	-2,334
50-54	143,218	70,045	73,173	125,238	60,519	64,719	125,482	60,637	64,845	-17,736	-9,408	-8,328
55-59	142,057	68,470	73,587	135,861	66,223	69,638	136,126	66,352	69,774	-5,931	-2,118	-3,813
60-64	132,463	61,771	70,692	141,232	67,991	73,241	141,506	68,123	73,383	9,043	6,352	2,691
65-69	116,227	52,539	63,688	132,135	61,598	70,537	132,392	61,718	70,674	16,165	9,179	6,986
70-74	97,774	41,185	56,589	116,012	52,223	63,789	116,237	52,324	63,913	18,463	11,139	7,324
75 +	168,697	58,838	109,859	132,895	37,679	95,216	133,153	37,752	95,401	-35,544	-21,086	-14,458

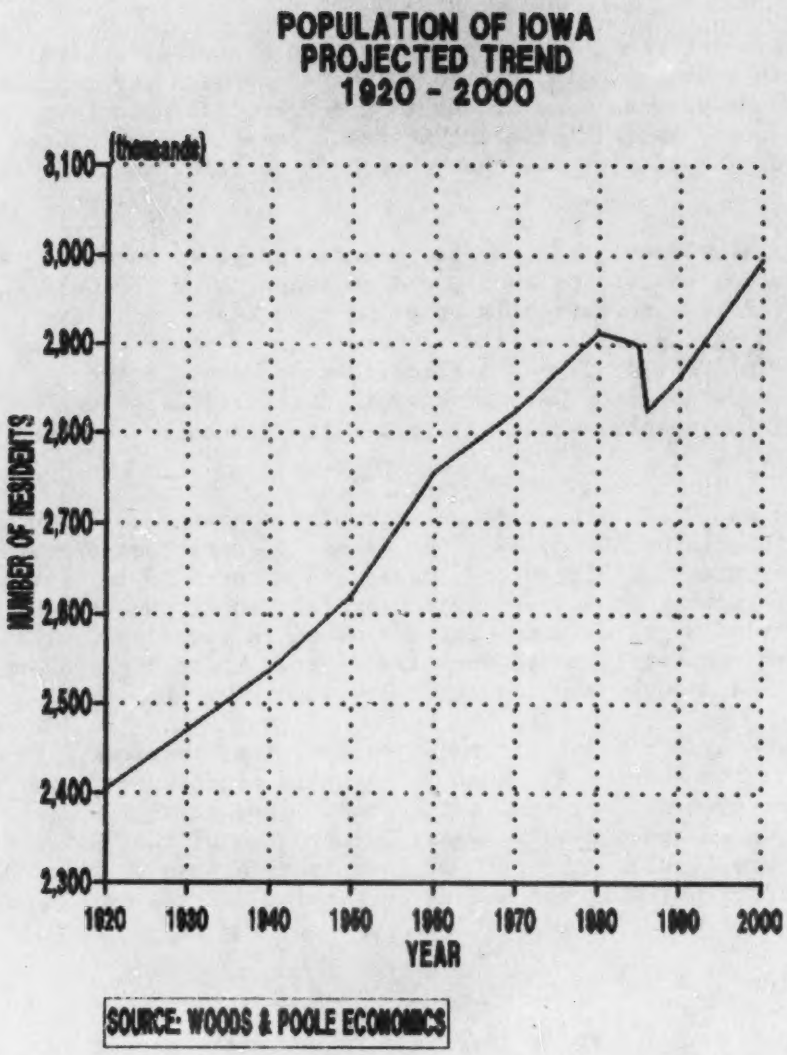
TABLE 2.1 (continued)

CIVILIAN POPULATION BY AGE, RACE, AND SEX
STATE OF IOWA
1980 - 1991

AGE AND RACE	POPULATION 1980 TOTAL	MALE	FEMALE	POPULATION 1990 TOTAL	MALE	FEMALE	POPULATION 1991 TOTAL	MALE	FEMALE	CHANGE 1980 TO 1991 TOTAL	MALE	FEMALE
BLACK	**41,796**	**20,853**	**20,943**	**46,672**	**23,245**	**23,427**	**46,760**	**23,289**	**23,471**	**4,964**	**2,436**	**2,528**
UNDER 15	13,088	6,731	6,357	14,874	7,511	7,363	14,903	7,526	7,377	1,815	795	1,020
15-19	5,018	2,486	2,532	4,104	2,106	1,998	4,111	2,110	2,001	-907	-376	-531
20-24	4,810	2,553	2,257	4,837	2,404	2,433	4,845	2,408	2,437	35	-145	180
25-29	4,116	2,217	1,899	4,772	2,506	2,266	4,782	2,511	2,271	666	294	372
30-34	3,190	1,633	1,557	4,157	2,236	1,921	4,165	2,240	1,925	975	607	368
35-39	1,859	886	973	3,266	1,688	1,578	3,272	1,691	1,581	1,413	805	608
40-44	1,754	867	887	1,989	961	1,028	1,993	963	1,030	239	96	143
45-49	1,545	682	863	1,717	843	874	1,720	844	876	175	162	13
50-54	1,394	616	778	1,543	690	853	1,545	691	854	151	75	76
55-59	1,391	622	769	1,380	606	774	1,384	608	776	-7	-14	7
60-64	1,120	516	604	1,370	607	763	1,372	608	764	252	92	160
65-69	795	398	397	1,133	514	619	1,135	515	620	340	117	223
70-74	671	281	390	808	396	412	810	397	413	139	116	23
75 +	1,045	365	680	722	177	545	723	177	546	-322	-188	-134
OTHER	**47,585**	**26,161**	**21,424**	**53,664**	**29,518**	**24,146**	**53,765**	**29,573**	**24,192**	**6,180**	**3,412**	**2,768**
UNDER 15	16,829	11,231	5,598	16,091	11,129	4,962	16,121	11,150	4,971	-708	-81	-627
15-19	5,119	2,445	2,674	5,588	2,832	2,756	5,598	2,837	2,761	479	392	87
20-24	5,350	2,792	2,558	5,284	2,550	2,734	5,294	2,555	2,739	-56	-237	181
25-29	4,799	2,514	2,285	5,439	2,811	2,628	5,449	2,816	2,633	650	302	348
30-34	3,848	1,877	1,971	4,968	2,601	2,367	4,977	2,606	2,371	1,129	729	400
35-39	2,412	1,115	1,297	4,080	2,022	2,058	4,088	2,026	2,062	1,676	911	765
40-44	2,004	988	1,016	2,682	1,259	1,423	2,687	1,261	1,426	683	273	410
45-49	1,485	672	813	2,106	1,028	1,078	2,110	1,030	1,080	625	358	267
50-54	1,603	797	806	1,586	730	856	1,589	731	858	-14	-66	52
55-59	1,105	520	585	1,606	788	818	1,610	790	820	505	270	235
60-64	758	331	427	1,175	559	616	1,177	560	617	419	229	190
65-69	641	258	383	806	357	449	808	358	450	167	100	67
70-74	573	230	343	654	266	388	655	266	389	82	36	46
75 +	1,059	391	668	1,599	586	1,013	1,602	587	1,015	543	196	347

SOURCE: LABOR MARKET INFORMATION UNIT, DEPARTMENT OF EMPLOYMENT SERVICES

CHART 2.3


POPULATION OF IOWA
PROJECTED TREND
1920 - 2000
(thousands)
3,100
3,000
2,900
2,800
2,700
2,600
2,500
2,400
2,300
NUMBER OF RESIDENTS
1920
1930
1940
1950
1960
1970
1980
1990
2000
YEAR
SOURCE: WOODS & POOLE ECONOMICS

C. Transportation

Iowa's central location and diversified transportation system provides convenient access to all parts of the country.

Because of increasing use of telephone and data processing communication systems, Iowa's central location provides businesses with more time to conduct business with the East and West time zones.

Interstate highways intersect in the center of the state, effectively dividing Iowa into quarters. In addition, Iowa's highways and improved farm-to-market roads provide easy access to freeways, urban centers, and major markets in seven large, bordering states. Iowa leads 40 states for total mileage of road systems, even though it is only twenty-fifth in area.

Iowa is bordered by two navigable rivers. Goods can go by water as far east as Pennsylvania, west to Oklahoma, and to seaports on the Gulf and Great Lakes. Water transportation is of prime importance in international trade and in competitive rate structure among other means of transportation. In 1984, nearly 43 million tons of cargo on the Mississippi passed through the Davenport area. Sixty-five percent consisted of grain shipments, while nearly a fifth contained coal and petroleum products.

Eight Class I and one Class II railroads currently operate 4,023 route miles in the state. In addition, 14 other Class III railroads operate about 870 miles of track. "Piggyback" service is offered to 13 cities and 20 terminals. Most shipments can reach one-fourth of the country in a day, and the nation's extremities can be reached in four days. The state's rails were ready to step in when river barge traffic was sharply hindered by the 1988 drought and resultant low water levels.

Iowa is also served by six major airlines; United, TWA, American, Northwest, Midway, and America Air West. There are also several community and charter lines serving Iowa cities. They serve 350 airports, 112 of which are publicly owned. Ninety-two of these airports are paved and 99 are lighted. No part of Iowa is more than 30 minutes drive from an airport suitable for modern commercial and business aircraft.

D. Education

An excellent educational system is available to serve the people and businesses of Iowa. The state contains 431 public school districts, 237 parochial and private schools, 3 state universities, 34 private universities, and 15 area vocational schools and community colleges.

Iowa State University, located in Ames, has over 26,000 students in many major fields: Science and Humanities, Agriculture, Engineering, Family and Consumer Science, Business, Veterinary Medicine, Education, and graduate studies. The University has played a pioneering role in nuclear energy research, is a major developer of uses for agricultural products, and maintains an extension service that serves communities on a wide range of social and economic projects.

The University of Northern Iowa in Cedar Falls was originally a state teachers college. It attracts over 11,000 students in the areas of Education, Business and Liberal Arts, and is the only university in the nation which confers the degree of Doctor of Industrial Technology. Ninety-five percent of U.N.I. students are residents of Iowa. This university has the distinction of placing 500 teachers from all over the U.S. into overseas positions each year.

The University of Iowa in Iowa City has over 29,000 students in the fields of law, the arts, engineering, and medicine. Like I.S.U. and U.N.I., this university provides activities for the public with its great auditoriums and athletic arenas.

E. Non-agricultural Industries

From statehood in 1846 through the 1930's, Iowa was primarily an agricultural state in terms of economic production. Because of Iowa's central U.S. location, other economic developments began taking place. Iowa's major cities became major convention centers until this pattern was broken by the effects of WWII. Meanwhile, the insurance industry had established central Iowa as one of the insurance capitals of the world and it remains so today.

The great demand for farm and construction mechanization encouraged large scale manufacturing, along with large scale food processing, transportation, and utilities. This in turn supported smaller scale supporting industries such that the rising urban population overtook the declining rural population in the 1950's and established Iowa as having a truly diversified economy. This diversification has continued to grow in the areas of home appliance manufacturing, electronics and telecommunications, chemicals, plant seeds, warehousing and distribution, and many other industries.

SECTION 3

LABOR FORCE CHARACTERISTICS AND TRENDS

LABOR FORCE CHARACTERISTICS AND TRENDS

A. Size

At a time when Iowa's population growth has slowed, the labor force has grown to record numbers. This trend began in the 1970's and has continued through 1988.

There were 4.5 percent more people (68,000) in the labor force in 1988, compared to 1980, and 5.8 percent more people employed (83,010). Meanwhile, it was indicated that the population growth had stalled to near zero growth.

From 1970 to 1980, the number of residents climbed 3.2 percent (+99,887) while the labor force increased 28.5 percent (321,600) to fill 219,000 non-agricultural jobs which were created during the decade.

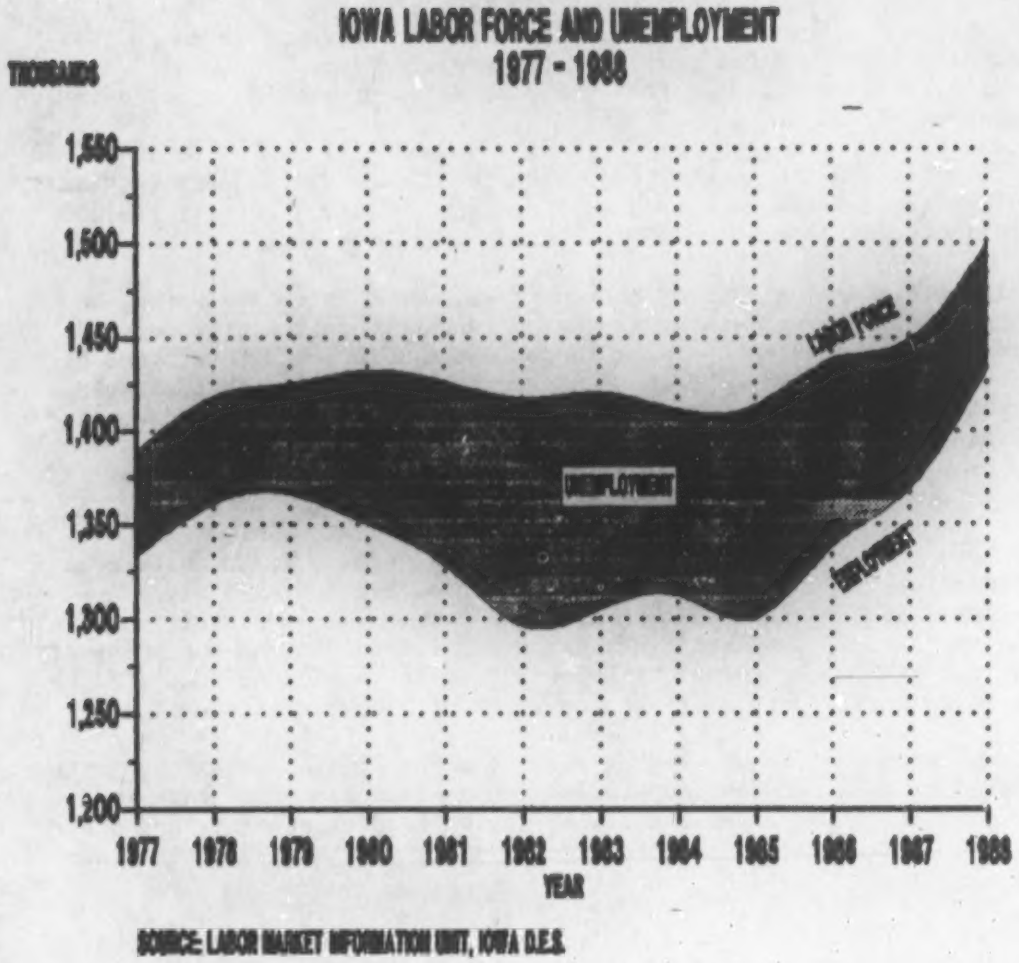
Two significant components of the increased labor force are women and young people. Census data shows that a large proportion of women and younger workers entered the work force in the 1970's and this trend has continued in the 1980's. Part of the reason for this is that between 1979 and 1983, Iowa manufacturing and construction industries decreased employment by 82,000 workers. The majority of workers in these industries are male, so additional women may have entered the labor force in order to minimize the loss of family income.

Women have entered the labor force in growing numbers for both personal and financial reasons. Their participation became increasingly important during periods of high price inflation when the additional income was needed to maintain standards of living. By the beginning of the next century, the Bureau of Labor Statistics estimates that the labor force participation of men and women will be nearly equal.

The large number of women working away from the home has resulted in the continued rise in service industries such as fast food, day care and small general stores. These new jobs may be held by students and other part-time workers and contribute significantly to the size of the labor force.

Beginning in 1987, the demand for labor services increased sharply as Iowa rebounded from the mid-1980's recession. The renewed demand for workers continued through 1988 while both employment and the size of the labor force increased, greatly reducing the ranks of unemployed persons. Newspaper classified advertisements for health care personnel and food processing workers were numerous. Agricultural seed producers began plans for employing migrant workers from the Southwest U.S. during the 1989 growing season. Illustration 6.1 demonstrates how increased employment during 1987 and 1988 eliminated much of the bulging unemployment of the mid-1980's.

CHART 3.1



SOURCE: LABOR MARKET INFORMATION UNIT, IOWA D.E.S.

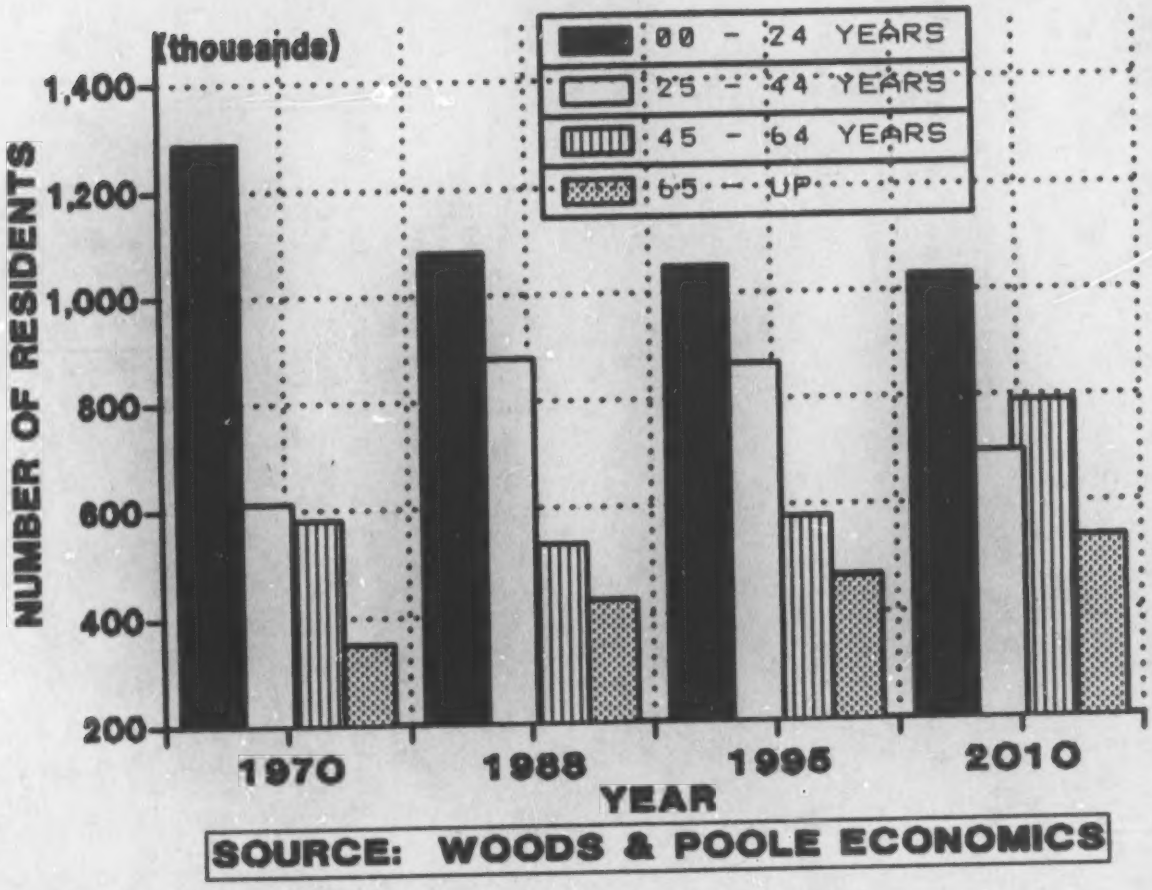
B. Average age

With the manufacturing downturn of the early 1980's, many workers were laid off in order of seniority. This affected younger workers under 30 years of age in most cases. Many of these younger workers left Iowa for employment, resulting in an upward shift in average age of Iowa's experienced workers. In 1970, the average age of the labor force was 32 years. In 1980, it was 35. The average age of the 1990 Iowa work force is projected to be 37 years.

There may have been an increase in the proportion of graduating high school and college students who left Iowa, which would also increase the average age of the remaining work force. For example, the percentage of graduate outplacements continues to rise at the state universities. This trend is further magnified by increasing enrollments and graduations from Iowa's colleges.

CHART 3.2

PROJECTED AGE GROUPS IN IOWA



SOURCE: WOODS & POOLE ECONOMICS

TABLE 3.1

LABOR FORCE SUMMARY BY AGE, RACE AND SEX IN STATE OF IOWA
1990 - 1991

	1990				1991			
AGE GROUP	LABOR FORCE	EMPLOYMENT	UNEMPLOYMENT	RATE	LABOR FORCE	EMPLOYMENT	UNEMPLOYMENT	RATE
TOTAL	**1,493,070**	**1,430,360**	**62,710**	**4.2**	**1,505,850**	**1,439,630**	**66,220**	**4.4**
16-19	100,380	93,890	6,490	6.5	100,610	93,940	6,680	6.6
20-24	213,310	197,990	15,320	7.2	217,970	200,320	17,650	8.1
25-29	224,180	213,900	10,270	4.6	224,420	214,040	10,380	4.6
30-34	199,840	193,480	6,360	3.2	199,950	193,470	6,480	3.2
35-44	325,880	311,380	14,490	4.4	326,560	311,670	14,890	4.6
45-54	223,690	218,240	5,440	2.4	226,230	220,620	5,610	2.5
55-59	93,870	91,820	2,060	2.2	95,730	93,570	2,160	2.3
60-64	72,860	71,380	1,480	2.0	74,450	72,900	1,550	2.1
65+	39,070	38,280	790	2.0	39,930	39,100	820	2.1
MALE	**822,190**	**785,200**	**36,990**	**4.5**	**822,470**	**783,680**	**38,790**	**4.7**
16-19	49,880	45,670	4,210	8.4	50,970	46,650	4,320	8.5
20-24	117,100	108,190	8,910	7.6	119,660	108,880	10,780	9.0
25-29	125,060	118,160	6,900	5.5	123,140	116,340	6,800	5.5
30-34	114,090	110,190	3,900	3.4	112,330	108,490	3,850	3.4
35-44	171,220	163,740	7,480	4.4	168,530	161,150	7,380	4.4
45-54	120,220	116,860	3,370	2.8	120,520	117,130	3,390	2.8
55-59	55,390	54,470	920	1.7	56,600	55,660	940	1.7
60-64	43,670	42,900	770	1.8	44,620	43,830	790	1.8
65+	25,560	25,020	540	2.1	26,110	25,560	550	2.1
FEMALE	**670,880**	**645,160**	**25,720**	**3.8**	**683,370**	**655,950**	**27,420**	**4.0**
16-19	50,500	48,220	2,280	4.5	49,640	47,290	2,350	4.7
20-24	96,210	89,810	6,410	6.7	98,310	91,450	6,870	7.0
25-29	99,120	95,740	3,380	3.4	101,280	97,700	3,580	3.5
30-34	85,750	83,290	2,460	2.9	87,620	84,990	2,630	3.0
35-44	154,660	147,650	7,010	4.5	158,030	150,520	7,510	4.8
45-54	103,460	101,390	2,080	2.0	105,720	103,500	2,220	2.1
55-59	38,490	37,340	1,140	3.0	39,130	37,910	1,220	3.1
60-64	29,190	28,480	720	2.4	29,830	29,060	770	2.6
65+	13,520	13,260	250	1.9	13,810	13,540	270	2.0

TABLE 3.1 (continued)

LABOR FORCE SUMMARY BY AGE, RACE AND SEX IN STATE OF IOWA
1990 - 1991

AGE GROUP	1990 LABOR FORCE	1990 EMPLOYMENT	1990 UNEMPLOYMENT	1990 RATE	1991 LABOR FORCE	1991 EMPLOYMENT	1991 UNEMPLOYMENT	1991 RATE
WHITE	**1,446,700**	**1,386,880**	**59,830**	**4.1**	**1,458,740**	**1,395,560**	**63,180**	**4.3**
16-19	96,490	90,580	5,920	6.1	96,700	90,630	6,070	6.3
20-24	206,320	191,630	14,690	7.1	210,820	193,850	16,970	8.1
25-29	216,400	206,460	9,940	4.6	216,470	206,410	10,060	4.6
30-34	192,570	186,440	6,130	3.2	192,540	186,300	6,240	3.2
35-44	315,390	301,530	13,860	4.4	315,850	301,640	14,220	4.5
45-54	218,150	212,950	5,190	2.4	220,580	215,240	5,350	2.4
55-59	91,800	89,840	1,950	2.1	93,800	91,750	2,050	2.2
60-64	71,680	70,260	1,420	2.0	73,240	71,760	1,480	2.0
65+	37,910	37,190	720	1.9	38,740	37,990	750	1.9
WHITE MALE	**795,890**	**760,440**	**35,450**	**4.5**	**795,610**	**758,470**	**37,140**	**4.7**
16-19	47,440	43,610	3,830	8.1	48,470	44,560	3,910	8.1
20-24	112,920	104,360	8,560	7.6	115,390	104,980	10,410	9.0
25-29	120,240	113,500	6,740	5.6	118,210	111,580	6,630	5.6
30-34	109,570	105,770	3,810	3.5	107,720	103,980	3,740	3.5
35-44	165,980	158,730	7,250	4.4	163,180	156,040	7,140	4.4
45-54	117,250	114,070	3,180	2.7	117,480	114,290	3,190	2.7
55-59	54,260	53,420	840	1.5	55,440	54,590	860	1.5
60-64	43,030	42,300	730	1.7	43,970	43,220	750	1.7
65+	25,200	24,690	510	2.0	25,750	25,230	520	2.0
WHITE FEMALE	**650,820**	**626,440**	**24,380**	**3.7**	**663,130**	**637,090**	**26,040**	**3.9**
16-19	49,050	46,960	2,090	4.3	48,230	46,070	2,150	4.5
20-24	93,400	87,270	6,130	6.6	95,440	88,870	6,570	6.9
25-29	96,160	92,960	3,200	3.3	98,260	94,830	3,430	3.5
30-34	83,000	80,670	2,330	2.8	84,810	82,320	2,500	2.9
35-44	149,410	142,800	6,610	4.4	152,670	145,590	7,080	4.6
45-54	100,900	98,890	2,010	2.0	103,100	100,950	2,160	2.1
55-59	37,540	36,420	1,120	3.0	38,360	37,160	1,200	3.1
60-64	28,650	27,960	690	2.4	29,280	28,540	740	2.5
65+	12,710	12,500	210	1.7	12,990	12,760	230	1.7

TABLE 3.1 (continued)

LABOR FORCE SUMMARY BY AGE, RACE AND SEX IN STATE OF IOWA
1990 - 1991

	1990				1991			
AGE GROUP	LABOR FORCE	EMPLOYMENT	UNEMPLOYMENT	RATE	LABOR FORCE	EMPLOYMENT	UNEMPLOYMENT	RATE
BLACK	**21,220**	**19,710**	**1,510**	**7.1**	**21,640**	**20,070**	**1,570**	**7.3**
16-19	1,580	1,220	360	22.8	1,590	1,210	380	24.0
20-24	3,350	2,990	360	10.9	3,420	3,030	390	11.4
25-29	3,730	3,550	180	4.9	3,810	3,660	160	4.1
30-34	3,450	3,350	100	3.0	3,520	3,410	110	3.2
35-44	4,370	4,080	300	6.8	4,470	4,150	320	7.1
45-54	2,550	2,460	80	3.3	2,600	2,510	90	3.5
55-59	840	790	40	5.3	850	810	50	5.5
60-64	660	620	40	5.5	680	640	40	5.8
65+	700	650	40	5.9	710	670	40	6.2
BLACK MALE	**11,820**	**11,060**	**760**	**6.4**	**12,070**	**11,250**	**820**	**6.8**
16-19	920	700	220	24.2	940	700	240	25.3
20-24	1,970	1,770	190	9.9	2,010	1,800	210	10.3
25-29	2,300	2,220	80	3.4	2,340	2,260	80	3.5
30-34	2,110	2,070	40	1.9	2,150	2,100	40	2.0
35-44	2,260	2,170	90	4.0	2,310	2,220	100	4.2
45-54	1,330	1,260	70	5.3	1,360	1,290	80	5.6
55-59	460	420	40	7.7	470	430	40	7.9
60-64	320	300	20	6.0	330	310	20	6.4
65+	160	150	10	7.0	160	150	10	7.5
BLACK FEMALE	**9,400**	**8,650**	**750**	**8.0**	**9,580**	**8,820**	**760**	**7.9**
16-19	660	520	140	20.8	650	510	140	21.9
20-24	1,380	1,210	170	12.3	1,410	1,230	180	12.9
25-29	1,440	1,330	110	7.3	1,470	1,400	70	4.9
30-34	1,340	1,280	60	4.7	1,370	1,300	70	4.9
35-44	2,110	1,900	210	9.7	2,150	1,930	220	10.2
45-54	1,210	1,200	10	1.1	1,240	1,220	10	1.1
55-59	380	370	10	2.4	390	380	10	2.6
60-64	340	320	20	5.0	350	330	20	5.2
65+	540	510	30	5.6	550	520	30	5.8

TABLE 3.1 (continued)

LABOR FORCE SUMMARY BY AGE, RACE AND SEX IN STATE OF IOWA
1990 - 1991

AGE GROUP	1990 LABOR FORCE	1990 EMPLOYMENT	1990 UNEMPLOYMENT	1990 RATE	1991 LABOR FORCE	1991 EMPLOYMENT	1991 UNEMPLOYMENT	1991 RATE
OTHER NONWHITE	**25,150**	**23,780**	**1,370**	**5.5**	**25,460**	**24,000**	**1,460**	**5.7**
16-19	2,310	2,090	220	9.4	2,330	2,100	230	9.8
20-24	3,640	3,380	260	7.2	3,720	3,440	280	7.6
25-29	4,050	3,890	150	3.8	4,130	3,970	170	4.0
30-34	3,810	3,690	120	3.1	3,900	3,770	130	3.3
35-44	6,110	5,780	330	5.4	6,250	5,890	360	5.7
45-54	2,990	2,830	170	5.5	3,050	2,870	180	5.8
55-59	1,240	1,180	60	4.9	1,070	1,010	60	5.5
60-64	520	490	30	5.4	530	500	30	5.6
65+	470	440	30	6.4	480	450	30	6.7
OTHER NONWHITE MALE	**14,480**	**13,700**	**780**	**5.4**	**14,790**	**13,960**	**840**	**5.7**
16-19	1,530	1,360	160	10.6	1,560	1,390	170	11.1
20-24	2,210	2,060	160	7.1	2,260	2,090	170	7.4
25-29	2,520	2,450	80	3.1	2,580	2,500	80	3.3
30-34	2,410	2,350	60	2.3	2,460	2,400	60	2.4
35-44	2,980	2,840	140	4.6	3,040	2,900	150	4.8
45-54	1,640	1,530	120	7.0	1,670	1,550	120	7.3
55-59	670	630	40	6.3	690	640	50	6.6
60-64	320	300	20	6.2	330	310	20	6.4
65+	200	180	20	8.5	200	190	20	8.8
OTHER NONWHITE FEMALE	**10,670**	**10,080**	**590**	**5.5**	**10,670**	**10,050**	**620**	**5.8**
16-19	780	730	50	6.9	770	710	60	7.3
20-24	1,430	1,320	110	7.4	1,460	1,340	110	7.8
25-29	1,520	1,450	80	4.9	1,560	1,470	80	5.2
30-34	1,410	1,340	70	4.6	1,440	1,370	70	4.9
35-44	3,140	2,940	200	6.3	3,200	2,990	210	6.6
45-54	1,350	1,300	50	3.8	1,380	1,330	60	4.0
55-59	570	550	20	3.3	390	370	10	3.6
60-64	200	190	10	4.0	210	200	10	4.4
65+	270	260	10	4.8	280	260	10	5.1

SOURCE: LABOR MARKET INFORMATION UNIT, DEPARTMENT OF EMPLOYMENT SERVICES

CHART 3.3

MEDIAN AGE OF IOWANS

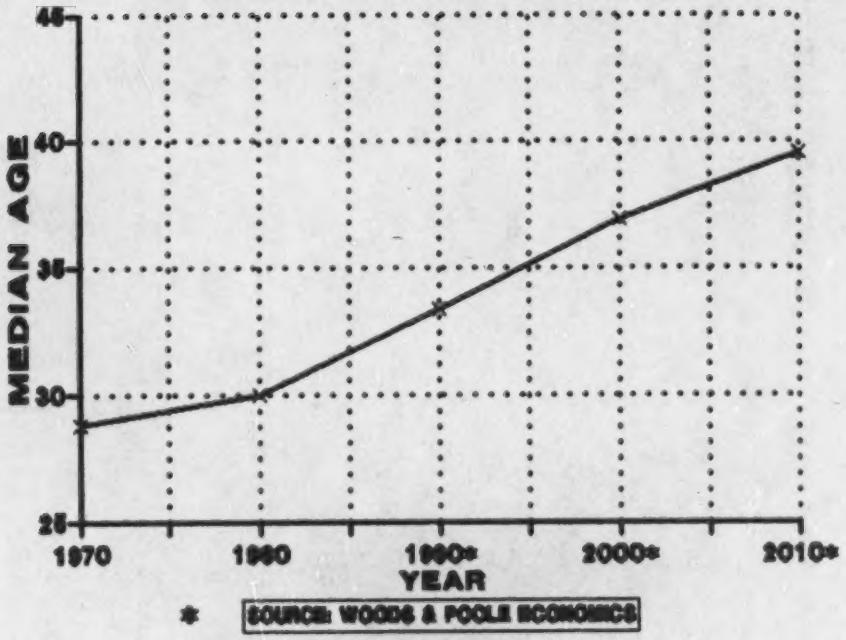


CHART 3.4

MINORITIES IN IOWA PROJECTED MIX

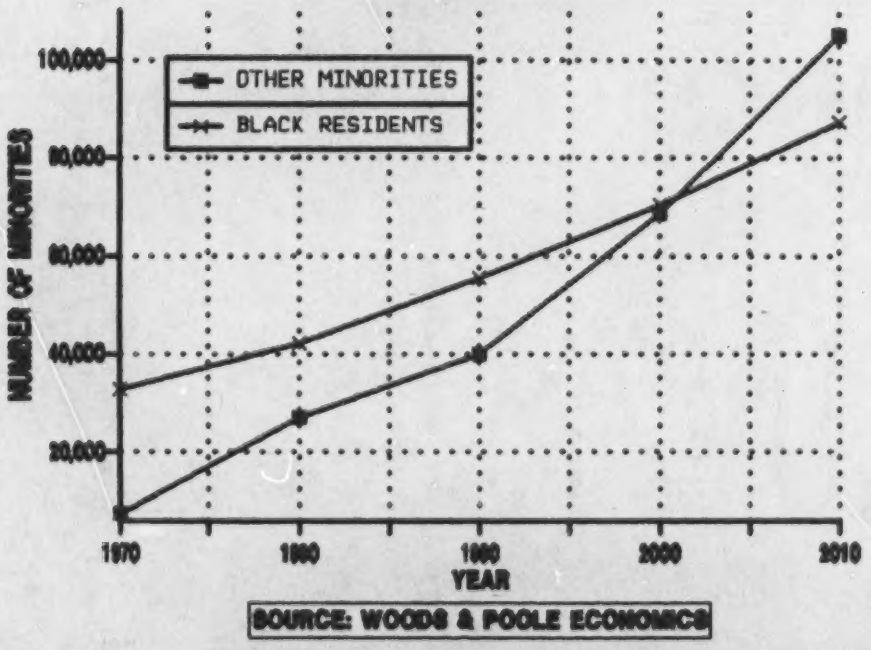
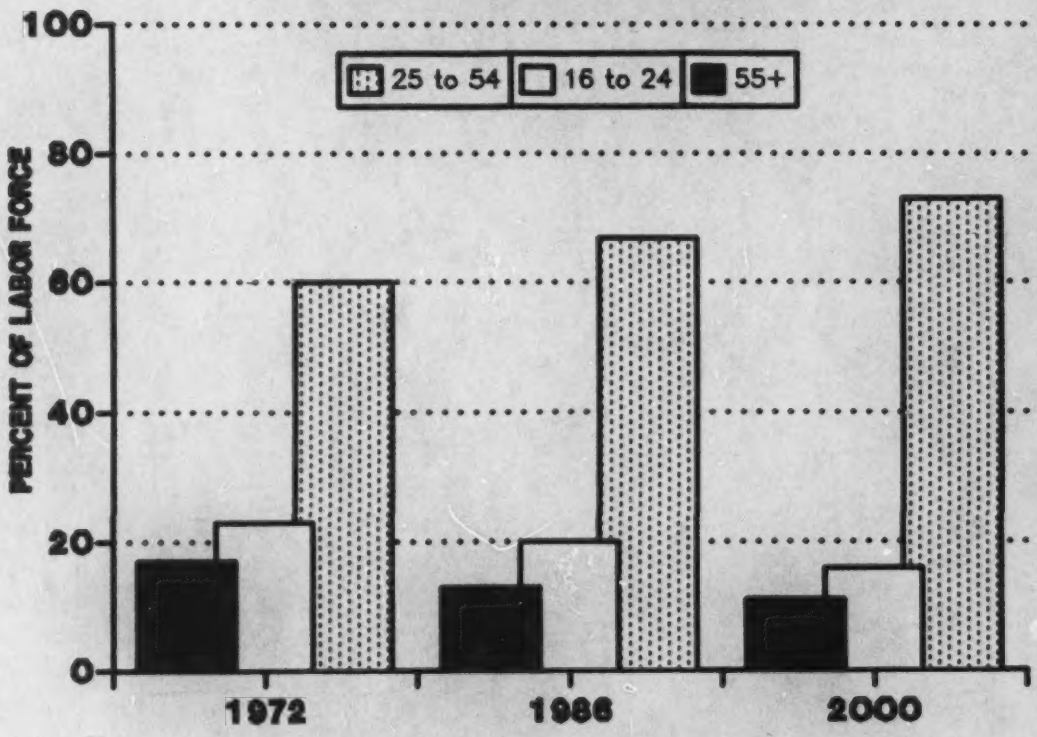


CHART 3.5

THE SHARE OF WORKERS IN THE U.S. LABOR FORCE YOUNGER AND OLDER WORKERS



SOURCE: OCCUPATIONAL OUTLOOK QUARTERLY, FALL1987

SECTION 4

EMPLOYMENT IN TERMS OF IOWA'S INDUSTRIES

EMPLOYMENT IN TERMS OF IOWA'S INDUSTRIES

A. Major Industries

AGRICULTURE

Even though farming may be viewed as declining in its share of the state economy, it is still an enormous industry and contributes much to Iowa. Crops include corn, soybeans, oats, milo and other grains. There is also significant commercial production of garden crops like sweet corn, squash, pumpkins, and melons. Livestock production is another large part of Iowa's agriculture capacity and includes beef, pork, dairy, sheep, and poultry.

Like many other industries, farming has changed very much over the years. After World War II, the race toward fuller mechanization continued. Productivity soared as livestock and crop technologies developed. Crops and herds grew healthier and faster and produced greater yields when harvested or slaughtered. One and two-row equipment gave way to eight and sixteen-row crop equipment. Tractors moved up from "mechanical horses that don't have to be fed, watered, and put away at night" to 100+ horsepower four-wheel-drive articulated steering giants which can pull a 70-foot-wide chisel plow 14 inches deep at 8 miles per hour.

Following a nationwide trend, farm families shrunk in size, but with machines which produce large round bales of hay and others which automatically dispense livestock feed to herds in confined spaces, large families are no longer an economic necessity. Farming has drastically shifted from a broadbased industry involving several kinds of crops and several kinds of livestock to one of specialization. Many farmers have dropped livestock altogether, producing only cash crops instead. Other farms have become identified as "livestock operations" with specialization in primarily one form or another of poultry or livestock.

This specialization enables many farmers to maximize their incomes. Some farmers store and market their crops in ways that give them income at regular intervals. This reduces the need for a diversified operation while providing year-round sources of income and it eliminates the expense of maintaining separate buildings and equipment for chickens, hogs, dairy herds, etc. Livestock producers also respond to changing conditions in order to maximize their incomes. They can expand or shrink their herds according to market forecasts while feeding them on home grown crops.

The results of the changes have been widespread. More acres of land are being managed by fewer farm families. Rural towns are experiencing declining school enrollment, population and commerce.

People entering the farming occupations need to have a good grasp of technical subjects and must have solid financial backing, much more so than their grandparents. Strong science and vocational backgrounds and university degrees are commonplace among today's Iowa farmers in order that they can manage the production records, technical systems, finances, chemicals, and environmental concerns encountered by agriculture.

By the 1980's, Iowa farms and agriculture-related industries became so involved with world markets that changes in global economics and politics had profound effects on Iowa's economy, thus reminding us of the significance of agribusiness in the state. At the same time that demand for commodities was contracting, some farm expenses tripled. Farm income and farm land values plummeted, resulting in an economic numbing of much of the state. Many adjustments in ag-related ownership and management took place. Hundreds of farms and their equipment had to be sold to satisfy debts. The surplus of farm machinery ruined sales of new farm equipment and depressed that industry. Many banks which were closely related to farm lending became insolvent and were sold. Displaced farmers took up new occupations and moved to towns and larger cities. Many farm machinery dealerships closed or were acquired by others.

The surviving farms and agribusinesses became more efficient by streamlining their operations, reducing expenses, etc. By late 1987 this sector of Iowa's economy was able to take advantage of ever-changing world conditions and began restoring its role in Iowa's economy. Some of the factors which caused these changes are described in Section 8, FACTORS WHICH AFFECT IOWA'S ECONOMY.

Non-agricultural Industries which Gained Employment in 1988

Iowa's non-agricultural wage and salary employment declined during six of the years following 1979, but in 1988 it jumped to a record high of 1,155,900. This occurred while the farm sector experienced the worst drought in recent history.

Late in 1987, Iowa's economy had begun to demonstrate growth in many areas. This trend continued throughout 1988 resulting in a welcome strengthening of many economic segments. While economists were evaluating the impact of the mid-1980's population drain, Iowa's labor force grew to record numbers in size. Many unemployed people returned to work and some who had left the state returned when they were recalled to their former work or as new openings were created.

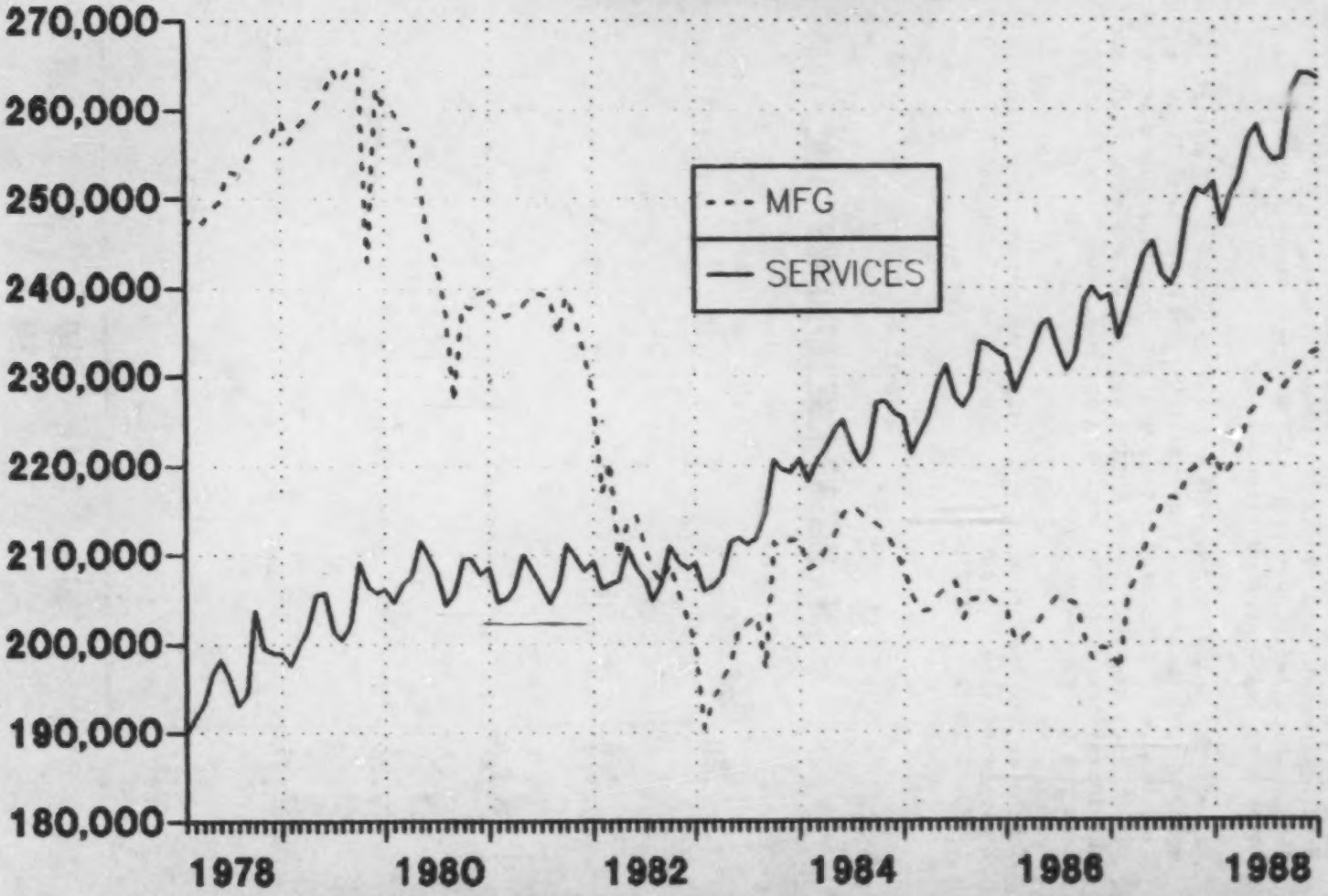
The Iowa Labor Force Summary which lists major industry groups shows that 35 industries experienced growth during 1988. The five major growth industries were Services (15,100), Retail Trade (10,800), Durable Goods Manufacturing (8,300), Nondurable Goods Manufacturing (5,600) and Construction (3,000).

Services

In contrast with the overall decline of nonagricultural employment levels of the 1980's, the service industries have added workers in each year of the decade for a total gain of 51,000. The increase from 1987 to 1988 alone was 15,100 employed.

CHART 4.1

NONAGRICULTURAL WAGE AND SALARY EMPLOYMENT
STATE OF IOWA
1978 - 1988



SOURCE: LABOR MARKET INFORMATION UNIT, DEPARTMENT OF EMPLOYMENT SERVICES

Health services is the largest component of this group. This industry has been experiencing rapid changes. For example, there has been increasing emphasis on out-patient care by insurers and employers. As a result, hospitals have become more competitive in the use of advertising, mergers, and other strategies. Further competition was brought about by the manufacturing and construction layoffs of the early 1980's which left fewer people with company health benefits and caused lower hospital occupancy rates.

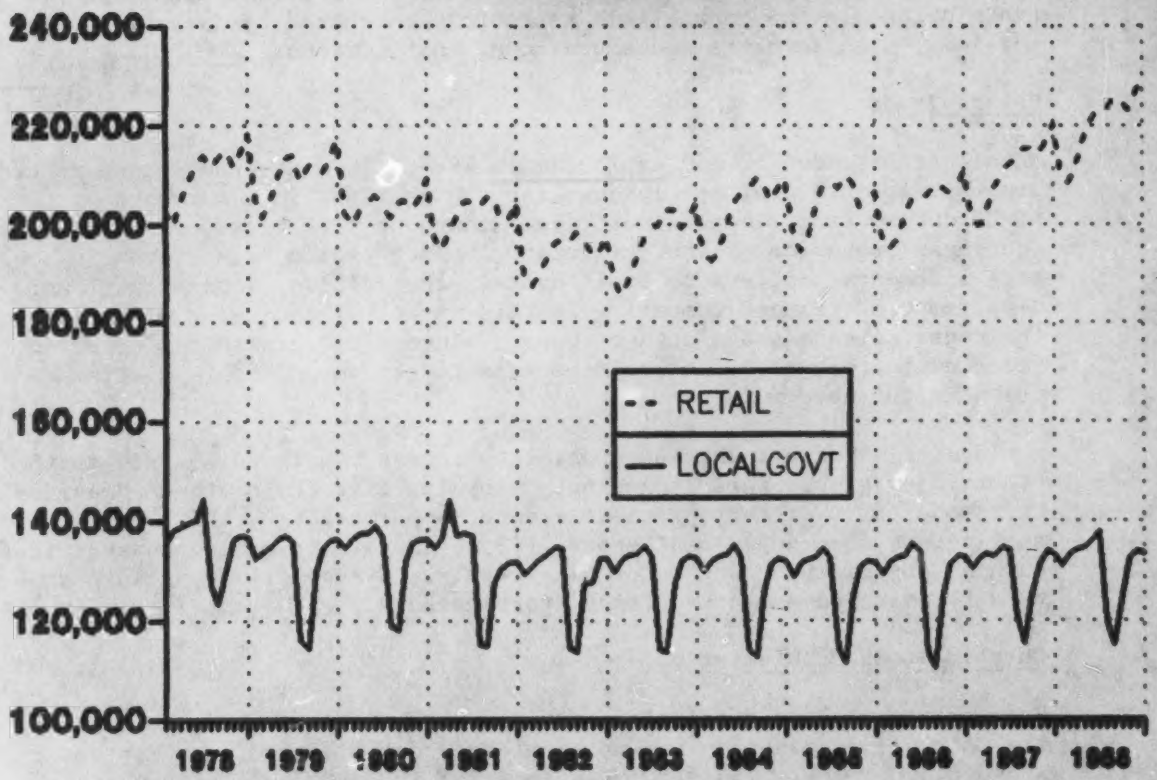
To meet the changing demand for services, many local health care units were created to provide convenient out-patient care. Some of these are supported by major care centers who are competing for a share of the health care market. These sprang up quickly and were ready when in 1988 the increasing number of employed persons raised the demand for health care and maintenance services.

Iowa's aging population is requiring more nursing home facilities. Employment in that industry has grown from 27,700 in 1982 to 31,300 in 1988, an increase of 3,600.

CHART 4.2

CHART 4.3

NONAGRICULTURAL WAGE AND SALARY EMPLOYMENT
STATE OF IOWA
1978 - 1988



SOURCE: LABOR MARKET INFORMATION UNIT, DEPARTMENT OF EMPLOYMENT SERVICES

One of the fastest growing businesses in today's economy is the temporary help industry. Even small firms are hiring temporary workers in many occupations while they determine whether their needs are temporary or permanent. Other components of services include advertising, public relations, consulting, cleaning, and data processing. The demand for consulting services is expected to continue growing as business becomes more technical and while the cost of consultants is less than the cost of permanent employees.

The acceptance of micro computers (personal computers) in business has flattened the growth of data processing services, but data processing firms have expanded into electronic mail, software development and other areas which they have in common with personal computers. The task of training people how to use this technology is shared by data processing services, manufacturers and educational institutions.

Retail Trade

Retail trade added 10,800 employees in 1988. This was the second record growth year in a row, nearly doubling the previous year's record of 5,700 new workers. Approximately one third of this growth came from the continued expansion of the restaurant industry while "Fast food" establishments continue to proliferate. In addition, supermarkets and department stores are competing in this market by adding or expanding their delicatessens and coffee shops. Since rapid growth has occurred for a number of years, it could be expected to experience a flatter trend in the near future.

Employment in department and speciality stores continued to grow as the other major groups were expanding. Many familiar chain stores expanded or remodeled. Wal-Mart plans to create "Hypermarkets", which are combination food/department stores. Some stores are adding new services such as dry cleaning and automobile repair. Hy-Vee is moving into shoe repair, gasoline and convenience store markets.

Durable Goods Manufacturing

Even though 1,100 construction machinery workers lost their jobs when the Caterpillar plant in Davenport closed, durable goods manufacturing added 8,300 workers in 1988 for a total of 132,200. The highest gain was in farm machinery (2,200), followed by fabricated metals (1,700), and transportation equipment (1,600).

Farm machinery, the largest component of Iowa's machinery industry, continued the recovery which began in 1987. Deere and Company, the largest manufacturer, recalled hundreds of workers statewide even though the midwest was experiencing extremely poor farming conditions with dry weather. The upturn can be explained by the fact that overall farm machinery production capacity has been reduced in the U.S. through mergers and elimination of low horsepower tractor product lines. However, a high concentration of the remaining capacity lies in Iowa. Farm subsidy payments, severe drought in other farm states and improved exports all served to raise many Iowa farm incomes and increased the ability of many farmers to finance new machinery purchases.

The fabricated metals industry became stronger statewide as wheel builders, automotive accessories and parts, and many other varied manufacturers experienced increased orders.

While Iowa does not contain a large motor vehicle manufacturing industry, over 12,000 of its workers are engaged in the production of transportation equipment. The two dominant segments of this industry are motor vehicle parts and accessories and motor homes. Between 1980 and 1988, the transportation equipment industry added 4,000 employees. Nationally, demand for parts and accessories has been growing slowly as a result of declining domestic automobile production. In Iowa, it is motor home manufacturing that has provided the greatest job growth among the transportation equipment industries. Motor home sales are very cyclical and will depend on the general prosperity of the American economy.

Nondurable Goods

Nondurable goods added 5,600 workers in 1988 for a total of 95,100 people. The highest growth occurred in meat products (1,700), with paper (1,100) and printing/publishing (1,000) close behind.

Meat products continued the resurgence which began in 1986. Always a volatile industry, it is undergoing rapid change as adjustments are being made in ownership and issues such as inspection, grading, waste water treatment and safety are addressed.

In Iowa, meat packing constitutes the largest segment of the food and kindred products industry group. Nationally, the meat packing industry has recorded increased employment in each year since 1983, while Iowa meat packing experienced a ten-year decline in employment until 1986. There has been a long-term downward trend in the demand for red meat. This is partially the result of a change in consumer preferences away from beef and pork and towards poultry. For this reason, 1987 was the first year in which more poultry than beef was consumed in the United States. In the nation as a whole, the packing plant and poultry dressing industries are nearly equal in terms of employment. However, in Iowa, 35 percent of persons who work in the food and kindred products industry are employed in meat packing plants, while poultry accounts for less than 5 percent of these workers. Therefore, the shift in sales away from red meat has contributed to a movement of jobs away from Iowa and towards states with larger poultry industries.

Paper products rose in 1988 as the result of increased shipping in the other growing industries. This spurred the demand for containers, the main element of this industry, and accounts for its growth of 1,100 employees.

Since 1980, the Iowa printing and publishing industry has added 2,700 workers. While the total publishing industry has grown in each year since 1982, newspapers, its largest component, decreased in both 1986 and 1987. Part of the decline in newspaper employment may be attributed to technological changes which have resulted in greater manufacturing efficiencies. In Iowa, a higher proportion of nonagricultural workers

are employed in printing and publishing than the national average. One reason for the relative importance of the Iowa publishing industry is the location of the Meredith Corporation, a producer of several national magazines, in Des Moines and central Iowa. The city also contains the Des Moines Register, which is the largest newspaper in the state.

Publishing is one industry which enjoys a trade surplus. Particularly in Europe, there is a demand for American magazines. As a result of the declining value of the dollar in 1988, European distributors and U.S. exporters experienced increased sales of these publications.

Construction

For the first time in ten years, construction increased, rising to 38,000 workers, still far below the 1978 level of 61,100. In contrast, national building employment has grown in each of the past six years. During the current decade, Iowa has undergone a decrease in industrial investment. Between 1969 and 1978, the state increased its share of national construction expenditures from 1.2 percent to 1.5 percent of the total; this portion had dropped to 1.0 percent by 1983. This decrease resulted in a drop in the number of Iowa construction employees. However, during 1987-1988, there was an increase in some kinds of capital investment. The number of square feet built for banks and office buildings, warehouses, school and college classroom buildings, hospitals and health treatment buildings, in addition to houses of worship, all continued growing during the past year. Several local "strip malls' were under construction in 1988, along with significant work on highway and bridge construction and repair.

Although the rural towns saw little home construction, several cities in Iowa experienced rapid increases in housing. According to local boards of realtors, this occurred in Des Moines, Cedar Rapids, Marshalltown and Iowa City.

Construction increased sharply in June 1988 and was sustained at levels above 40,000 until December. The demand for construction was complimented with an early spring season, extremely dry summer and unseasonally mild autumn, all of which provided a nearly ideal and highly productive season. The continued mild winter may contribute to another early start in 1989.

Non-agricultural Industries which Lost Employment in 1988

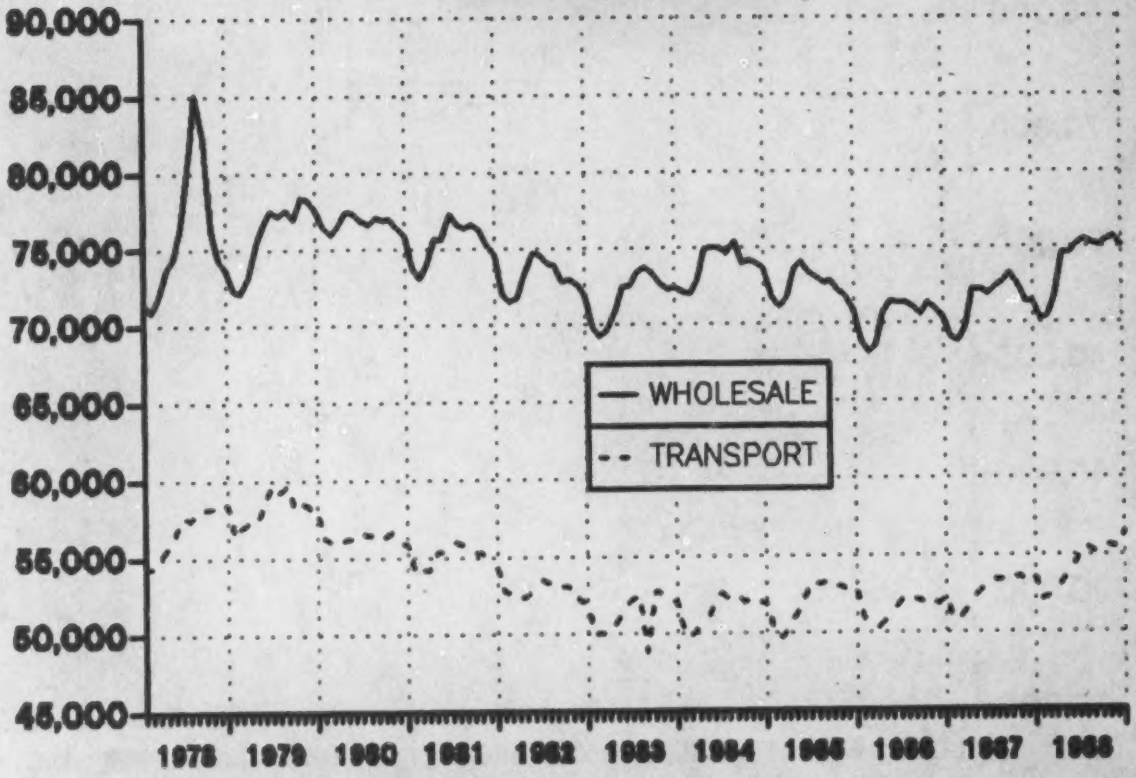
Within durable goods manufacturing, there were three industry groups which experienced drops in employment: construction machinery (-1,000), instruments and miscellaneous manufacturing (-600), and stone/clay/glass (-500).

Construction Machinery Manufacturing

Since 1980, employment in construction equipment has dropped to slightly more than half of its previous level. This parallels national trends during the same seven year period. During this decade, there has been a steady decline in exports. At the same time, imports of construction machinery have more than doubled. This is not to say that TOTAL

CHART 4.4

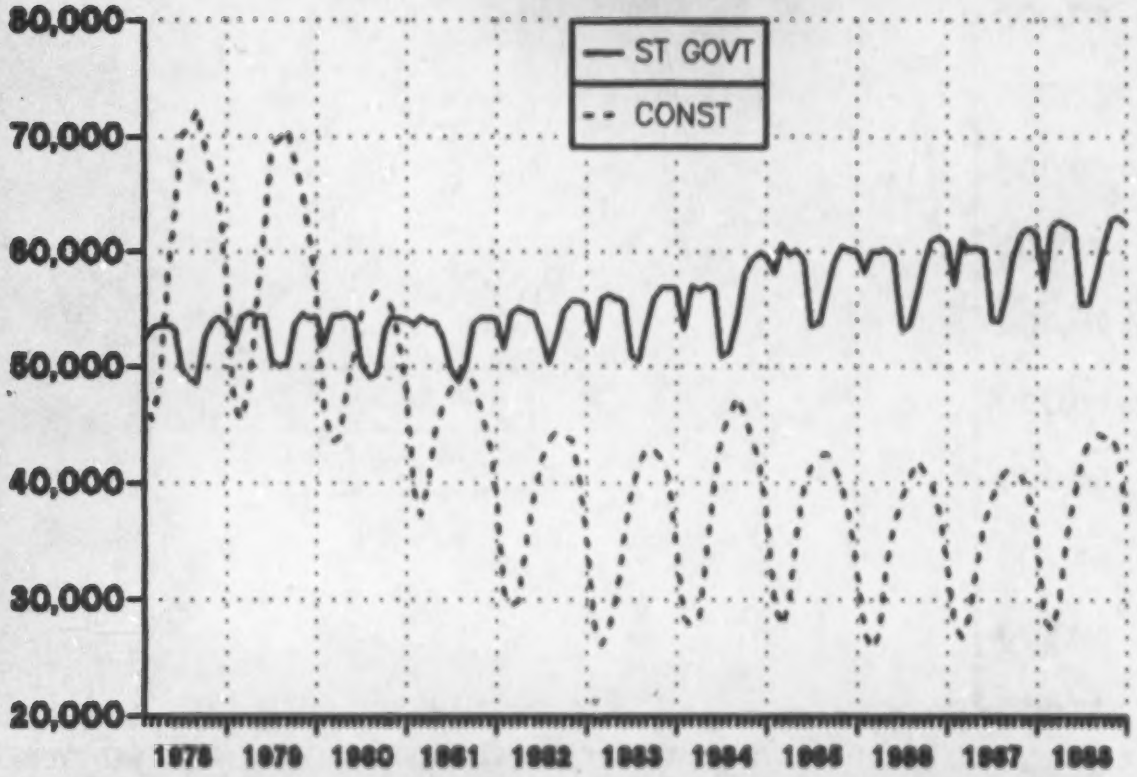
NONAGRICULTURAL WAGE AND SALARY EMPLOYMENT
STATE OF IOWA
1978 - 1988



SOURCE: LABOR MARKET INFORMATION UNIT, DEPARTMENT OF EMPLOYMENT SERVICES

CHART 4.5

NONAGRICULTURAL WAGE AND SALARY EMPLOYMENT
STATE OF IOWA
1978 - 1988



SOURCE: LABOR MARKET INFORMATION UNIT, DEPARTMENT OF EMPLOYMENT SERVICES

domestic demand doubled, for it increased by only a few percentage points annually. Of that demand, a disproportionate amount was satisfied with imports.

Factors which determine total demand are the foreign exchange rate of the dollar, interest rates, the long life durability of such equipment, and the likelihood of any massive new government construction programs. New equipment must demonstrate an increase in productivity before some older machines can be replaced during periods when these factors are unfavorable.

In 1981 the value of exported construction machinery was nearly ten times the value of imports. By 1987, this surplus had disappeared. One reason for the loss of international markets is the high cost of labor and material, particularly iron and steel. This cost disadvantage reacted with the overvalued dollar to place domestic producers in an unfavorable competitive position. During this period, American construction machinery manufacturers have invested in foreign facilities. Therefore, much of the imported equipment is being sold with domestic labels. Construction machinery is very important to Iowa because the percentage of workers employed in this industry is five times the national average. However, during 1987, J.I. Case shut down its Bettendorf plant. This was followed by the closing of the Caterpillar Tractor plant in Davenport in 1988. These shutdowns have a particularly severe effect on employment in Scott County, on the eastern border of Iowa.

Miscellaneous Manufacturing

Instruments and miscellaneous manufacturing were fairly stable in 1988, employing an average of 8,200 people. The year before, however, was more volatile, with a sharp pulse of increased employment which brought the annual average up to 8,800. That fluctuation now appears to have been temporary and it did not repeat in 1988.

Stone, Clay, Glass

The stone, clay, and glass industry group added workers in 1986 and 1987, but dropped in 1988 to 5,700, a loss of 500 from the previous year. In Iowa, the largest portion of this industry is engaged in the production of concrete products such as ready-mixed concrete and hydraulic cement. During the past decade this industry had to adjust to increased competition from imports. Nationally, between 1977 and 1987, imports climbed from 5 percent to 19 percent of all cement consumed.

Because the state has experienced a decline in its construction employment during most of this decade, this trend may have bottomed out. Even without a large government construction program, the repair of Iowa's bridges and roads along with commercial and residential construction in the larger cities may mean a boost in 1989 employment for this industry.

TABLE 4.1

IOWA NONAGRICULTURAL WAGE & SALARY EMPLOYMENT
STATE OF IOWA

1979-1988
ANNUAL AVERAGES
(IN THOUSANDS)

	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
Nonagriculture Wage & Salary (Except Domestics)	1135.5	1110.9	1089.2	1041.9	1040.4	1074.7	1074.1	1073.8	1109.1	1155.9
Manufacturing	259.8	244.8	236.5	209.8	202.3	211.9	204.7	201.7	213.5	227.2
Durable Goods	163.1	150.0	143.8	121.9	114.8	123.5	117.4	114.5	123.9	132.2
Lumber & Furniture	10.2	8.5	8.3	7.4	8.2	8.9	8.9	9.7	11.0	12.0
Stone, Clay and Glass	7.8	6.4	5.5	4.9	4.9	4.8	4.4	4.8	5.8	5.7
Primary Metal	9.2	8.5	8.6	7.9	7.1	7.9	7.3	6.7	6.9	7.5
Fabricated Metal	20.4	19.3	18.7	16.2	15.7	16.0	15.3	15.5	16.1	17.6
Machinery (Except Electric)	68.4	64.9	62.0	48.5	42.6	46.3	42.4	37.7	41.4	44.3
Farm Machinery	28.8	26.9	26.2	21.1	18.0	18.5	15.2	11.5	13.6	15.7
Construction Machinery	23.2	22.1	19.5	13.4	11.4	12.9	12.3	11.3	12.0	11.0
Electrical Equipment	26.0	25.3	23.5	21.3	19.8	20.3	20.4	21.7	23.6	24.8
Transportation Equipment	10.1	7.4	7.6	6.7	7.4	9.7	9.2	9.5	10.7	12.0
Instruments & Miscellaneous Manufacturing	11.1	9.7	9.6	9.0	9.1	9.6	9.4	8.9	8.4	8.0
Nondurable Goods	96.7	94.8	92.7	88.0	87.4	88.4	87.3	87.2	89.5	95.1
Food & Kindred Products	48.9	48.5	46.9	44.6	43.9	42.5	41.0	40.8	41.7	43.8
Meat Products	24.4	24.9	23.9	22.3	22.1	21.0	19.7	19.9	20.5	22.3
Grain Products	11.5	11.3	11.1	10.4	9.9	9.4	9.1	8.7	8.8	9.0
Bakery Products	2.6	2.4	2.1	2.0	2.0	2.0	1.9	1.9	1.9	1.8
Apparel	4.2	4.1	4.0	3.9	4.0	4.1	4.4	4.3	4.4	4.9
Paper	4.1	4.2	3.9	3.7	3.5	3.7	4.4	4.9	4.7	5.5
Printing & Publishing	17.7	17.8	17.6	17.5	17.5	18.2	18.4	18.8	19.5	20.5
Newspaper	7.6	7.4	7.1	6.9	6.8	7.0	7.2	7.1	6.9	6.9
Chemicals	8.1	7.8	7.6	6.9	6.6	6.6	6.4	6.2	6.3	6.5
Rubber	11.6	10.3	10.6	9.5	10.2	11.6	11.0	10.6	11.5	12.3
Textiles, Petroleum, Coal, & Leather	2.3	2.1	2.1	1.8	1.8	1.7	1.7	1.6	1.6	1.7
Nonmanufacturing	875.7	866.1	852.7	832.1	838.1	862.8	869.4	872.1	895.6	928.7
Mining	2.6	2.2	2.0	1.7	1.9	2.0	2.1	2.0	2.2	2.2
Construction	59.9	50.9	44.4	38.1	35.9	38.7	36.6	35.2	35.6	38.0
Transportation, Communication, & Public Utilities	58.2	56.3	55.0	52.7	51.3	51.5	52.0	51.5	52.7	54.4
Railroad	8.8	8.0	7.8	6.5	5.7	5.8	5.5	5.0	4.5	4.4
Communication	14.5	14.5	14.2	13.7	12.7	11.8	11.7	11.4	11.4	11.7
Electric & Gas	10.4	10.5	10.5	10.4	10.3	10.3	10.3	10.0	9.9	9.9

B. Regional Performance

Regionally, the largest rates of employment growth occurred in SDA's 3, 1, 7, and 15 while the lowest rates of growth were recorded in SDA's 8, 12, and 9. An increase in total non-ag employment was recorded for each SDA. (Table 4.2) Only one SDA recorded a net decline of employment in the manufacturing sector.

TABLE 4.2

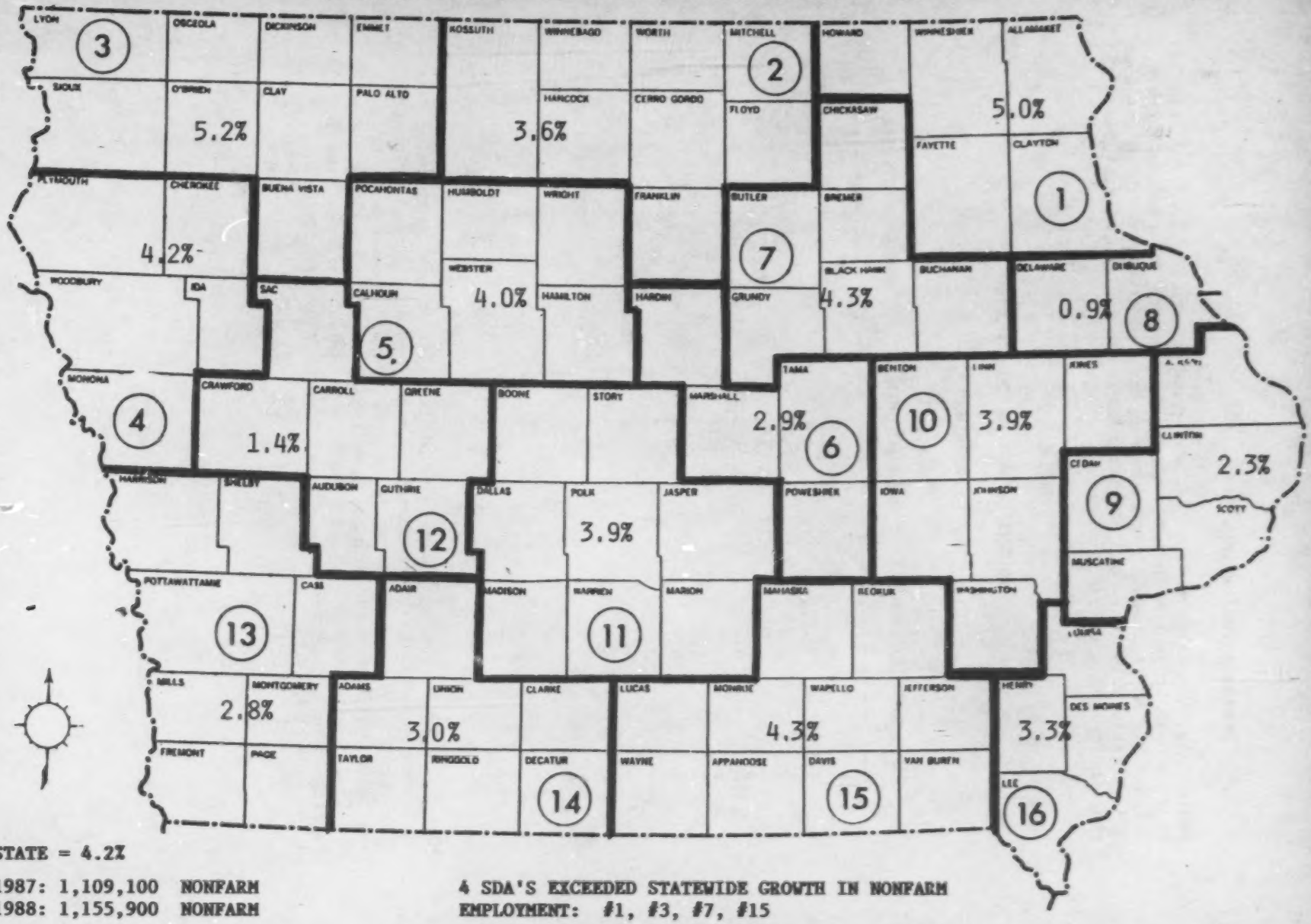
PERCENT CHANGE IN EMPLOYMENT

1987-1988

SDA	NONAGRICULTURAL	MANUFACTURING	NONMANUFACTURING
1	5.0	12.8	3.4
2	3.6	7.3	2.2
3	5.2	12.4	3.5
4	4.2	14.2	2.3
5	4.0	11.4	2.3
6	2.9	3.6	2.7
7	4.3	11.1	2.6
8	0.9	0.5	0.7
9	2.3	0.2	2.9
10	3.9	5.6	3.4
11	3.9	7.0	3.6
12	1.4	- 9.7	3.7
13	2.8	9.6	2.2
14	3.0	5.7	2.1
15	4.3	9.6	3.0
16	3.3	5.4	2.3

Manufacturing is one of the more volatile major groups in terms of employment and has a strong economic impact in each of Iowa's 16 SDA's. This group includes manufacturing of durable goods (computers, home appliances) and nondurable goods (publishing, food processing). Table 4.3 lists the cities which had significant changes in employment in manufacturing industries larger than 500 employees in size.

STATEWIDE COMPARISON OF EMPLOYMENT GROWTH - 1988



STATE = 4.2%

1987: 1,109,100 NONFARM
1988: 1,155,900 NONFARM

4 SDA'S EXCEEDED STATEWIDE GROWTH IN NONFARM EMPLOYMENT: #1, #3, #7, #15

TABLE 4.3

IOWA'S INDUSTRIAL EMPLOYMENT, INVOLVING INDUSTRIES WITH OVER 500 WORKERS SELECTED CITIES

City	County	Industry	SDA NUMBER	CHANGE IN EMPLOYMENT
ALGONA	KOSSUTH	FABRICATED METAL	2	-60
AMANA	IOWA	ELECTRICAL APPLIANCES	10	+100
AMES	STORY	SCIENTIF. INSTRU/EQUIP	11	-20
ANKENY	POLK	FARM MACHINERY	11	+900
BELMOND	WRIGHT	TRANSPORTATION EQUIP	5	+100
BURLINGTON	DES MOINES	ELECTRICAL MACHINERY	16	-145
BURLINGTON	DES MOINES	FARM MACHINERY	16	-250
CARROLL	CARROLL	SCIENTIF. INSTRU/EQUIP	12	-40
CEDAR RAPIDS	LINN	DATA PROCESSING SYSTEMS	10	-90
CEDAR RAPIDS	LINN	COMPUTER EQUIPMENT	10	+265
CEDAR RAPIDS	LINN	FOOD PROCESSING	10	+160
CEDAR RAPIDS	LINN	ELECTRICAL MACHINERY	10	+180
CEDAR RAPIDS	LINN	FARM MACHINERY	10	+40
CHARLES CITY	FLOYD	FARM MACHINERY	2	+200
CHEROKEE	CHEROKEE	FOOD PROCESSING	4	0
CLEAR LAKE	CERRO GORDO	COMPUTERS	2	-300
CLINTON	CLINTON	CHEMICALS	9	+20
CLINTON	CLINTON	PAPER PRODUCTS	9	+100
CLINTON	CLINTON	FOOD PROCESSING	9	+30
COUNCIL BLUFFS	POTTAWATTAMIE	FOOD PROCESSING	13	-300
DAVENPORT	SCOTT	NEWS PUBLISHING	9	-50
DAVENPORT	SCOTT	FOOD PROCESSING	9	+100
DAVENPORT	SCOTT	CONST/INDUST MACHINERY	9	-1100
DENISON	CRAWFORD	FOOD PROCESSING	12	0
DES MOINES	POLK	NON-ELECTRICAL MACHINERY	11	-700
DES MOINES	POLK	PUBLISHING	11	+70
DES MOINES	POLK	RUBBER	11	+340
DES MOINES	POLK	FOOD PROCESSING	11	+100
DES MOINES	POLK	PUBLISHING	11	0
DUBUQUE	DUBUQUE	HOME FURNITURE	8	0
DUBUQUE	DUBUQUE	CONST/INDUST MACHINERY	8	-430
DUBUQUE	DUBUQUE	FOOD PROCESSING	8	-450
DYERSVILLE	DUBUQUE	TOYS	8	-100
FOREST CITY	WINNEBAGO	TRANSPORTATION EQUIP	2	+530
FORT MADISON	LEE	FOOD PROCESSING	16	-146
FORT MADISON	LEE	SCIENTIF. INSTRU/EQUIP	16	+40
GRINNELL	POWESHIEK	APPAREL	6	+70
IOWA CITY	JOHNSON	PLASTICS	10	-25
KEOKUK	LEE	FOOD PROCESSING	16	0
LAKE MILLS	WINNEBAGO	ENGINE FILTERS	2	-100
LANSING & WAUKON	ALLAMAKEE	FABRICATED METALS	1	+160
MARSHALLTOWN	MARSHALL	FABRICATED METAL	6	+30
MARSHALLTOWN	MARSHALL	NON-ELECTRICAL MACHINERY	6	-20
MARSHALLTOWN	MARSHALL	FOOD PROCESSING	6	+125
MIDDLETOWN	DES MOINES	ORDNANCE	16	+40
MUSCATINE	MUSCATINE	FOOD PROCESSING	9	-200
MUSCATINE	MUSCATINE	OFFICE FURNITURE	9	-50

TABLE 4.3 (continued)

IOWA'S INDUSTRIAL EMPLOYMENT, INVOLVING INDUSTRIES WITH OVER 500 WORKERS
SELECTED CITIES

City	County	Industry	SDA Number	Change in Employment
MUSCATINE	MUSCATINE	CHEMICALS	9	0
MUSCATINE	MUSCATINE	PLASTICS	9	+25
NEW HAMPTON	CHICKASAW	FOOD PROCESSING	7	+140
NEWTON	JASPER	ELECTRICAL APPLIANCES	11	0
NORTHWOOD	WORTH	WOOD PRODUCTS	2	+60
ORANGE CITY	SIOUX	APPAREL	3	0
OTTUMWA	WAPELLO	FARM MACHINERY	15	+45
OTTUMWA	WAPELLO	STORAGE BATTERIES	15	-70
PELLA	MARION	WOOD PRODUCTS	11	-100
PELLA	MARION	FARM MACHINERY	11	+160
PERRY	DALLAS	FOOD PROCESSING	11	-700
RIVERDALE	SCOTT	PRIMARY METALS	9	+120
SHENANDOAH	PAGE	TRANSPORTATION EQUIP	13	0
STORM LAKE	BUENA VISTA	FOOD PROCESSING	3	+200
WATERLOO	BLACK HAWK	FARM MACHINERY	7	+640
WEBSTER CITY	HAMILTON	ELECTRICAL APPLIANCES	5	+250
WEST BURLINGTON	DES MOINES	ELECTRICAL MACHINERY	16	0
WEST LIBERTY	MUSCATINE	FOOD PROCESSING	9	+160

TABLE 4.4

CHANGE IN EMPLOYMENT FOR SERVICE DELIVERY AREAS

SDA & CNTY	NON-AGRICULTURAL				MANUFACTURING				NON MANUFACTURING			
	1987	1988	CHANGE	%CHG	1987	1988	CHANGE	%CHG	1987	1988	CHANGE	%CHG
STATE OF IOWA	1109080	1155880	46800	4.22%	213490	227200	13710	6.42%	895590	928690	33100	3.70%
TOTAL: SDA 1	26470	27800	1330	5.02%	4830	5450	620	12.84%	21630	22370	740	3.42%
ALLAMAKEE	4560	4700	140		1200	1360	160		3360	3350	-10	
CLAYTON	5130	5540	410		1160	1430	270		3970	4110	140	
FAYETTE	6210	6470	260		870	900	30		5340	5580	240	
HOWARD	2840	2920	80		610	610	0		2230	2310	80	
WINNESHIEK	7730	8170	440		990	1150	160		6730	7020	290	
TOTAL: SDA 2	50650	52460	1810	3.57%	12950	13890	940	7.26%	37720	38550	830	2.20%
CERRO GORDO	21640	22090	450		4610	4760	150		17030	17330	300	
FLOYD	5350	5650	300		1220	1410	190		4130	4240	110	
FRANKLIN	3230	3240	10		780	760	-20		2450	2470	20	
HANCOCK	3400	3680	280		980	1150	170		2430	2520	90	
KOSSUTH	5440	5580	140		990	1010	20		4450	4580	130	
MITCHELL	2900	3020	120		480	550	70		2420	2470	50	
WINNEBAGO	6940	7370	430		3560	3820	260		3390	3550	160	
WORTH	1750	1830	80		330	430	100		1420	1390	-30	
TOTAL: SDA 3	46850	49280	2430	5.19%	8770	9860	1090	12.43%	38080	39410	1330	3.49%
BUENA VISTA	7930	8310	380		1760	1950	190		6170	6360	190	
CLAY	6910	7350	440		950	1120	170		5960	6230	270	
DICKINSON	5200	5450	250		1020	1110	90		4180	4340	160	
EMMET	3800	3880	80		660	690	30		3140	3190	50	
LYON	2740	2860	120		540	600	60		2200	2260	60	
O'BRIEN	4880	5080	200		410	510	100		4460	4570	110	
OSCEOLA	1740	1820	80		390	470	80		1350	1350	0	
PALO ALTO	2940	2950	10		220	200	-20		2730	2740	10	
SIOUX	10710	11580	870		2820	3210	390		7890	8370	480	

TABLE 4.4 (continued)

CHANGE IN EMPLOYMENT FOR SERVICE DELIVERY AREAS

SDA & CNTY	NON-AGRICULTURAL				MANUFACTURING				NON MANUFACTURING			
	1987	1988	CHANGE	%CHG	1987	1988	CHANGE	%CHG	1987	1988	CHANGE	%CHG
TOTAL: SDA 4	**66290**	**69100**	**2810**	**4.24%**	**11710**	**13370**	**1660**	**14.18%**	**54500**	**55750**	**1250**	**2.29%**
CHEROKEE	4880	4990	110		1050	1100	50		3840	3900	60	
IDA	2700	2930	230		700	870	170		2000	2070	70	
MONONA	2570	2640	70		150	170	20		2430	2470	40	
PLYMOUTH	6740	6940	200		1310	1330	20		5430	5610	180	
WOODBURY	49400	51600	2200		8500	9900	1400		40800	41700	900	
TOTAL: SDA 5	**36670**	**38150**	**1480**	**4.04%**	**7490**	**8340**	**850**	**11.35%**	**29180**	**29840**	**660**	**2.26%**
CALHOUN	2950	3100	150		290	300	10		2660	2810	150	
HAMILTON	6370	6910	540		2190	2480	290		4170	4440	270	
HUMBOLDT	3030	3150	120		600	670	70		2430	2490	60	
POCAHONTAS	2760	2820	60		480	530	50		2280	2280	0	
WEBSTER	16440	16900	460		2560	2830	270		13880	14070	190	
WRIGHT	5120	5270	150		1370	1530	160		3760	3750	-10	
TOTAL: SDA 6	**35580**	**36610**	**1030**	**2.89%**	**8290**	**8590**	**300**	**3.62%**	**27300**	**28030**	**730**	**2.67%**
HARDIN	6920	6890	-30		1300	1170	-130		5620	5730	110	
MARSHALL	15850	16430	580		4570	4730	160		11290	11700	410	
POWESHIEK	8240	8660	420		1560	1770	210		6680	6890	210	
TAMA	4570	4630	60		860	920	60		3710	3710	0	
TOTAL: SDA 7	**74980**	**78190**	**3210**	**4.28%**	**15940**	**17710**	**1770**	**11.10%**	**58950**	**60490**	**1540**	**2.61%**
WATERLOO MSA	60600	63400	2800		13200	14800	1600		47300	48600	1300	
BLACK HAWK												
BREMER												
BUCHANAN	4630	4830	200		620	740	120		4010	4090	80	
BUTLER	2840	2860	20		220	260	40		2620	2610	-10	
CHICKASAW	4110	4250	140		1400	1440	40		2720	2810	90	
GRUNDY	2800	2850	50		500	470	-30		2300	2380	80	

TABLE 4.4 (continued)

CHANGE IN EMPLOYMENT FOR SERVICE DELIVERY AREAS

SDA & CITY	NON-AGRICULTURAL				MANUFACTURING				NON MANUFACTURING			
	1987	1988	CHANGE	%CHG	1987	1988	CHANGE	%CHG	1987	1988	CHANGE	%CHG
TOTAL: SDA 8	**45680**	**46100**	**420**	**0.92%**	**13060**	**13130**	**70**	**0.54%**	**32630**	**32870**	**240**	**0.74%**
DELAWARE	4180	4400	220		960	1130	170		3230	3270	40	
DUBUQUE MSA	41500	41700	200		12100	12000	-100		29400	29600	200	
TOTAL: SDA 9	**111410**	**113920**	**2510**	**2.25%**	**27720**	**27770**	**50**	**0.18%**	**83690**	**86130**	**2440**	**2.92%**
CEDAR	4040	4370	330		620	720	100		3420	3640	220	
CLINTON	18540	19030	490		4240	4500	260		14300	14530	230	
JACKSON	5050	5240	190		1010	1110	100		4040	4120	80	
MUSCATINE	18280	18580	300		8150	8240	90		10130	10340	210	
SCOTT	65500	66700	1200		13700	13200	-500		51800	53500	1700	
TOTAL: SDA 10	**158350**	**164450**	**6100**	**3.85%**	**31610**	**33390**	**1780**	**5.63%**	**126730**	**131060**	**4330**	**3.42%**
BENTON	4450	4650	200		440	480	40		4010	4170	160	
IOWA	7160	7430	270		3120	3310	190		4040	4120	80	
JOHNSON	50900	53000	2100		4000	4300	300		46900	48700	1800	
JONES	4710	4970	260		940	1030	90		3760	3940	180	
LINN	85600	88800	3200		22200	23300	1100		63400	65500	2100	
WASHINGTON	5530	5600	70		910	970	60		4620	4630	10	
TOTAL: SDA 11	**274960**	**285610**	**10650**	**3.87%**	**35490**	**37980**	**2490**	**7.02%**	**239080**	**247620**	**8540**	**3.57%**
BOONE	7320	7870	550		820	850	30		6500	7020	520	
JASPER	11920	12130	210		4210	4230	20		7710	7900	190	
MADISON	2560	2660	100		180	250	70		2390	2410	20	
MARION	12950	13290	340		4510	4600	90		8440	8690	250	
DES MOINES MSA	206000	214100	8100		23500	25700	2200		182100	188400	6300	
POLK,DALLAS,WARREN												
STORY	34210	35560	1350		2270	2350	80		31940	33200	1260	

TABLE 4.4 (continued)

CHANGE IN EMPLOYMENT FOR SERVICE DELIVERY AREAS

SDA & CNTY	NON-AGRICULTURAL				MANUFACTURING				NON MANUFACTURING			
	1987	1988	CHANGE	%CHG	1987	1988	CHANGE	%CHG	1987	1988	CHANGE	%CHG
TOTAL: SDA 12	24230	24570	340	1.40%	4130	3730	-400	-9.69%	20100	20850	750	3.73%
AUDUBON	1660	1720	60		70	60	-10		1590	1660	70	
CARROLL	7890	8270	380		1120	1130	10		6770	7140	370	
CRAWFORD	6390	6210	-180		2200	1880	-320		4190	4330	140	
GRENE	2930	2910	-20		480	420	-60		2450	2500	50	
GUTHRIE	2390	2480	90		30	40	10		2360	2440	80	
SAC	2970	2980	10		230	200	-30		2740	2780	40	
TOTAL: SDA 13	55860	57410	1550	2.77%	7470	8190	720	9.64%	48300	49340	1040	2.15%
CASS	5760	5900	140		950	1080	130		4810	4820	10	
FREMONT	2540	2590	50		620	670	50		1920	1920	0	
HARRISON	3110	3260	150		140	140	0		2970	3120	150	
MILLS	3560	3650	90		50	40	-10		3510	3610	100	
MONTGOMERY	4390	4640	250		1180	1260	80		3220	3380	160	
PAGE	5550	5730	180		840	930	90		4710	4810	100	
POTTAWATTAMIE	26900	27500	600		3400	3800	400		23400	23800	400	
SHELBY	4050	4140	90		290	270	-20		3760	3880	120	
TOTAL: SDA 14	16550	17050	500	3.02%	3310	3500	190	5.74%	13250	13530	280	2.11%
ADAIR	2180	2280	100		250	320	70		1940	1950	10	
ADAMS	1510	1620	110		360	420	60		1160	1190	30	
CLARKE	2800	2910	110		1000	1100	100		1800	1810	10	
DECATUR	2600	2450	-150		470	350	-120		2130	2100	-30	
RINGGOLD	1220	1320	100		80	120	40		1130	1200	70	
TAYLOR	1420	1420	0		130	120	-10		1290	1300	10	
UNION	4820	5050	230		1020	1070	50		3800	3980	180	

TABLE 4.4 (continued)

CHANGE IN EMPLOYMENT FOR SERVICE DELIVERY AREAS

SDA & CITY	NON-AGRICULTURAL				MANUFACTURING				NON MANUFACTURING			
	1987	1988	CHANGE	%CHG	1987	1988	CHANGE	%CHG	1987	1988	CHANGE	%CHG
TOTAL: SDA 15	**41380**	**43140**	**1760**	**4.25%**	**8240**	**9030**	**790**	**9.59%**	**33140**	**34120**	**980**	**2.96%**
APPANOOSE	3890	4090	200		990	1040	50		2890	3050	160	
DAVIS	1670	1760	90		210	270	60		1460	1480	20	
JEFFERSON	6200	6820	620		1470	1690	220		4740	5130	390	
KEOKUK	2350	2420	70		240	270	30		2100	2150	50	
LUCAS	2950	3010	60		330	360	30		2610	2660	50	
MAHASKA	6110	6290	180		990	990	0		5130	5300	170	
MONROE	2060	2050	-10		390	380	-10		1670	1670	0	
VAN BUREN	1650	1620	-30		400	400	0		1260	1220	-40	
WAPELLO	12700	13250	550		2790	3200	410		9910	10060	150	
WAYNE	1800	1830	30		430	430	0		1370	1400	30	
TOTAL: SDA 16	**47430**	**49000**	**1570**	**3.31%**	**15020**	**15830**	**810**	**5.39%**	**32410**	**33170**	**760**	**2.34%**
DES MOINES	20530	20870	340		6470	6490	20		14050	14380	330	
HENRY	7850	8470	620		1740	2040	300		6120	6420	300	
LEE	16290	16460	170		5900	5990	90		10390	10470	80	
LOUISA	2760	3200	440		910	1310	400		1850	1900	50	

C. Projections

In order to develop employment projections, a number of assumptions concerning economic conditions must be made. The assumptions made in conjunction with the projections found in this publication are:

1) No major event such as widespread or long-lasting energy shortages, oil embargo, other price shocks, or major wars will significantly alter the industrial structure of the economy or the rate of economic growth.

2) The national economic institutional framework will not change radically.

3) Current social, technological, and scientific trends will continue, including values placed on work, education, income, and leisure.

4) A decline in the rate of expansion of the labor force is expected.

In addition to the above assumptions concerning long-range economic conditions, reference should be made to the assumptions relating to short-term occurrences. The mechanical process necessary for the job projections does not allow for cyclical or seasonal fluctuations, or other events such as openings or closings of large plants. The exception to this assumption would be those selected cases in which manual adjustments are made prior to publication, based on impending changes which are already announced. Since any or all of these situations can affect future employment levels, it is hoped that most short-term occurrences will balance themselves out over a long period.

The employment estimates presented are indicators of relative magnitude and probable direction rather than absolute values. Therefore, these projections should be considered a starting point and used together with other sources when studying future industry and occupational employment.

Table 4.5 , IOWA INDUSTRY PROJECTIONS, shows projected employment in 1990-1991 for the major industries in Iowa. The largest employment gains will occur in the services industries with approximately 16,800 new positions. Construction is projected to resume the trend of lower employment levels as it has through most of the 1980's. Over 3,400 fewer jobs are expected to be filled in 1991 from 1988.

Manufacturing also will continue to reduce employment by approximately 700 workers. Both construction and manufacturing may be near to bottoming out after long periods of decline.

TABLE 4.5

IOWA INDUSTRY PROJECTIONS
STATE OF IOWA

1988 - 1991

SIC CODE	TITLE	1988	1990	1991	CHANGE 1988 - 1991	PERCENT CHANGE
AGRICULTURE, FORESTRY, FISHING						
07	AGRICULTURAL SERVICES	4,390	4,610	4,670	290	6.6
	TOTAL FOR AGRICULTURE, FORESTRY, FISHING	**4,390**	**4,609**	**4,674**	**290**	**6.6**
MINING						
12	BITUMINOUS COAL MINING	210	200	200	0	-1.5
13	OIL AND GAS EXTRACTION	30	30	30	0	-3.3
14	NONMETALIC MINING AND QUARRYING	2,330	2,310	2,280	-50	-1.9
	TOTAL FOR MINING	**2,560**	**2,540**	**2,515**	**-50**	**-1.9**
CONSTRUCTION						
15	BUILDING CONSTRUCTION	8,680	7,970	7,660	-1,020	-11.8
16	CONSTRUCTION OTHER	7,240	7,670	7,220	-20	-0.3
17	CONSTRUCTION-SPECIAL TRADE CONTRACTORS	20,480	18,790	18,050	-2,420	-11.8
	TOTAL FOR CONSTRUCTION	**36,400**	**34,432**	**32,929**	**-3,470**	**-9.5**
MANUFACTURING						
20	FOOD AND KINDRED PRODUCTS	43,090	42,880	42,430	-660	-1.5
22	TEXTILE MILL PRODUCTS	690	700	690	0	0.3
23	APPAREL	4,600	4,680	4,610	20	0.4
24	LUMBER AND WOOD PRODUCTS	6,160	6,050	5,960	-200	-3.2
25	FURNITURE AND FIXTURES	5,510	5,440	5,360	-150	-2.8
26	PAPER AND ALLIED PRODUCTS	4,630	4,770	4,700	70	1.4
27	PRINTING AND PUBLISHING	20,250	20,790	20,830	580	2.8
28	CHEMICALS AND ALLIED PRODUCTS	6,660	6,800	6,700	40	0.6
29	PETROLEUM REFINING	170	170	170	0	0.6
30	RUBBER AND PLASTICS	12,190	12,500	12,310	110	0.9
31	LEATHER PRODUCTS	820	840	820	0	0.2
32	STONE CLAY AND GLASS	6,620	6,540	6,430	-190	-2.9
33	PRIMARY METALS	7,230	7,140	7,020	-210	-2.9
34	FABRICATED METALS	16,580	16,340	16,160	-420	-2.5
35	MACHINERY,EXCEPT ELECTRICAL	40,540	41,220	40,260	-280	-0.7
36	ELECTRICAL MACHINERY	24,900	26,420	26,840	1,950	7.8

TABLE 4.5 (continued)

IOWA INDUSTRY PROJECTIONS
STATE OF IOWA

1988 - 1991

SIC CODE	TITLE	1988	1990	1991	CHANGE 1988 - 1991	PERCENT CHANGE
37	TRANSPORTATION EQUIPMENT	11,200	11,260	10,140	-1,060	-9.4
38	MEASURING,ANALYZING,CONTROLLING	3,910	3,850	3,790	-110	-2.9
39	MISCELLANEOUS MANUFACTURING	5,570	5,510	5,420	-160	-2.8
	TOTAL FOR MANUFACTURING	221,320	223,902	220,644	-680	-0.3
TRANSPORTATION, COMMUNICATION, PUBLIC UTILITIES						
40	RAILROAD TRANSPORTATION	4,800	4,820	4,800	0	0.0
41	LOCAL AND SUBURBAN TRANSIT	1,980	1,980	1,980	0	0.0
42	MOTOR FREIGHT TRANSPORTATION	22,650	22,740	22,650	10	0.0
44	WATER TRANSPORTATION	290	290	290	0	0.0
45	TRANSPORTATION BY AIR	1,020	1,020	1,020	0	0.0
46	PIPE LINES	120	120	120	0	0.0
47	TRANSPORTATION SERVICES	1,180	1,180	1,180	0	0.0
48	COMMUNICATION	12,420	12,460	12,420	0	0.0
49	ELECTRIC,GAS,SANITARY SERVICES	10,670	10,720	10,670	0	0.0
	TOTAL FOR TRANSPORTATION, COMMUNICATION, PUBLIC	55,120	55,347	55,129	10	0.0
TRADE						
50	WHOLESALE TRADE-DURABLE GOODS	33,350	33,520	33,440	90	0.3
51	WHOLESALE TRADE-NONDURABLE GOODS	42,230	42,450	42,340	100	0.2
52	BUILDING MATERIALS	9,900	10,090	10,080	180	1.8
53	GENERAL MERCHANDISE STORES	28,860	29,420	29,370	520	1.8
54	FOOD STORES	35,330	36,020	35,970	640	1.8
55	AUTOMOTIVE DEALERS	28,470	29,030	28,990	510	1.8
56	APPAREL STORES	10,680	10,900	10,870	190	1.8
57	FURNITURE STORES	7,260	7,400	7,390	130	1.8
58	EATING AND DRINKING PLACES	75,200	76,660	76,550	1,350	1.8
59	MISCELLANEOUS RETAIL	21,840	22,260	22,230	390	1.8
	TOTAL FOR TRADE	293,120	297,740	297,214	4,100	1.4
FINANCE, INSURANCE, REAL ESTATE						
60	BANKING	18,600	19,150	19,400	790	4.3
61	CREDIT AGENCIES	9,370	9,650	9,770	400	4.3
62	SECURITY BROKERS	1,850	1,910	1,930	80	4.4
63	INSURANCE	20,210	21,150	21,400	1,190	5.9

TABLE 4.5 (continued)

IOWA INDUSTRY PROJECTIONS
STATE OF IOWA

1988 - 1991

SIC CODE	TITLE	1988	1990	1991	CHANGE 1988 - 1991	PERCENT CHANGE
64	INSURANCE AGENTS	8,280	8,520	8,630	350	4.3
65	REAL ESTATE	7,260	7,470	7,570	310	4.3
66	MISCELLANEOUS FINANCE	130	140	140	10	8.8
67	HOLDING AND OTHER INVESTMENT OFFICES	1,090	1,130	1,140	50	4.4
	TOTAL FOR FINANCE, INSURANCE, REAL ESTATE	66,800	69,119	69,991	3,190	4.8
SERVICES						
70	HOTELS	11,410	11,980	12,180	770	6.7
72	PERSONAL SERVICES	12,750	13,390	13,600	850	6.7
73	BUSINESS SERVICES	33,850	35,760	36,310	2,460	7.3
75	AUTOMOTIVE REPAIR	7,300	7,680	7,790	490	6.7
76	MISCELLANEOUS REPAIR SERVICES	3,030	3,190	3,230	200	6.6
78	MOTION PICTURES	1,660	1,740	1,770	110	6.6
79	AMUSEMENT AND RECREATION	9,230	9,690	9,850	620	6.7
80	HEALTH SERVICES	86,780	91,160	92,610	5,830	6.7
81	LEGAL SERVICES	6,050	6,360	6,460	410	6.7
82	EDUCATIONAL SERVICES	23,010	24,170	24,560	1,550	6.7
83	SOCIAL SERVICES	16,690	17,540	17,820	1,130	6.8
84	MUSEUMS	260	270	280	20	6.6
86	MEMBERSHIP ORGANIZATIONS	28,340	29,770	30,240	1,900	6.7
89	MISCELLANEOUS SERVICES	7,540	7,920	8,050	510	6.8
	TOTAL FOR SERVICES	247,900	260,618	264,733	16,830	6.8
GOVERNMENT						
91	FEDERAL GOVERNMENT	21,540	21,940	21,820	280	1.3
92	STATE GOVERNMENT	60,620	61,970	62,440	1,820	3.0
93	LOCAL GOVERNMENT	132,790	135,730	136,780	3,990	3.0
	TOTAL FOR GOVERNMENT	214,950	219,636	221,040	6,090	2.8
	TOTAL	1,142,550	1,167,940	1,168,860	26,310	2.3

SOURCE: LABOR MARKET INFORMATION UNIT, IOWA DEPARTMENT OF EMPLOYMENT SERVICES

SECTION 5

EMPLOYMENT BY OCCUPATION

EMPLOYMENT BY OCCUPATION

Accurate employment levels for most of the industries in Iowa are available because all firms that have employees who are covered under unemployment insurance taxes must frequently report their total employment levels. On the other hand, specific data for occupations are totaled only at the time of the national census. Because of the great interest in documenting and projecting occupational trends as well as industry trends, a complex system has been set in place which uses surveys of occupational staffing patterns and industry projections in order to project occupational levels.

The two major components which are necessary for the development of occupational projections are (1) the Occupational Employment Statistics (OES) program and (2) acceptable employment projections for each industry.

The OES program is conducted as part of a cooperative agreement between the Iowa Department of Employment Services and the national Bureau of Labor Statistics. Its main component is an annual survey which provides current estimates of occupational staffing patterns within industries. OES questionnaires are distributed to thousands of Iowa employers each year. The number of firms surveyed each year ranges between 2,000 and 8,000, depending on the industries being studied. Industries are surveyed on a three-year cycle as follows:

Year 1	Retail Trade, Regulated Industries, Education, State and Local Government
Year 2	Manufacturing and Hospitals
Year 3	Construction, Services, and Finance

Every organization with a minimum of 250 employees is included in the study. If an industry has fewer than 1,000 employees, all companies receive questionnaires. During the latest three-year cycle, 15,905 Iowa employers were studied.

As indicated above, occupational employment could only be studied during the decennial census of population before the OES survey was developed. The census had two major disadvantages. First, it could only be updated once in ten years. In addition, it relied on "self-identification". For example, an accountant who worked as a bookkeeper might still identify herself as an accountant. This gave a distorted picture of actual occupational employment. By utilizing an OES-based occupational survey rather than a census report, the Iowa Department of Employment Services has been able to double the number of occupations that were previously analyzed and provide information from some data which are only one year old.

The second major set of data required for occupational projections are acceptable industry projections on which to apply the OES survey results. These are developed in cooperation with the Department of Economic Development (DED), and result in an industry-occupation cross

reference which provides indications of industry and occupation trends that are as up-to-date as present resources permit.

Iowa industry employment projections are based on the Macro Model of the U.S. Economy from Data Resources Incorporated (DRI). The DRI econometric model contains 300 variables. It includes items such as employment, personal income, and interest rates. It is a major input into the Iowa Econometric Forecasting Model, which is maintained by the Institute for Economic Research at the University of Iowa.

The Iowa Model combines both state and national historical data which are updated as new information becomes available. It utilizes the export-base theory which divides the economy into two parts: industries which produce goods and services for export outside of a region and those which primarily produce for the local economy. In Iowa, agriculture, farm machinery, and rubber products are examples of export industries, while restaurants and other retail establishments exemplify organizations which serve the local community. In the export-base model, changes in export activity effect income and employment in the local sector because workers spend the greater part of their earnings near their homes. Manufacturing and agriculture are the primary Iowa export industries. Changes in national commodity prices, monetary exchange rates, and levels of production will determine prices, production levels, and employment in Iowa.

The final component of the Iowa Forecasting Model consists of population estimates. Population levels are projected by the U.S. Bureau of the Census. Estimates of births and deaths are needed to project population. Employment is also an important factor because it is needed to estimate net migration.

Once employment projections are developed using the model, they are presented to the Iowa Forecasting Council. This group is brought together every six months under the joint auspices of the University of Iowa Institute for Economic Research and the Iowa Department of Management. It consists of representatives of government agencies and major Iowa companies. Based on their knowledge of what is actually happening in Iowa (and particularly in their own industries), this group recommends changes in the industry projections which have been developed utilizing the Iowa Forecasting Model.

NOTE

The OES program provides staffing patterns for many occupations, but there are some occupations which cannot be accurately reported. For example, meager data is available for agricultural occupations, even though a large part of Iowa's economy is tied to farming. This condition exists because most farmers are self-employed and are not required to contribute to the unemployment insurance trust fund. Without this data, it is presently not possible to establish the size or survey the staffing patterns of industries within this category. This will be especially noticeable in certain occupations such as clergy, chiropractor, barber, and veterinarian.

The major occupational groups and their projected total openings, 1990-1991, are as follows:

GROUP	TOTAL OPENINGS
Managerial and Administrative	3,518
Professional and Technical	8,290
Sales Workers	5,725
Clerical and Administrative	7,847
Services	11,250
Agriculture	3,395
Production, Construction, Maintenance	5,623
TOTAL FOR STATE OF IOWA	45,648

Managerial and Administrative Occupations

The greatest number of openings in this category will be for general managers and top executives. This occupation includes the executives and managers of small enterprises as well as the heads of large factories and insurance firms. Many additional openings are expected for management specialists such as public service administrators, financial, food service, and marketing managers. Most of these openings will result from promotions and retirements. Employment growth within this occupational group will be modest. Positions in this category are often filled by senior or experienced persons from within the organization in the form of promotions, thus creating openings for new workers at typical "entry levels" of a firm.

Professional and Technical Occupations

The expansion of health services in Iowa has resulted in a large number of openings projected for registered nurses, physicians and surgeons, and licensed practical nurses. In other professional and technical occupations many openings are expected for secondary and elementary school teachers, vocational teachers, accountants and auditors. In these large occupations, openings will result from both growth and replacement.

Positions in this group are most often filled from outside the organizations because of the highly specialized training which is typical in this category. For example, a nursing aide would not be promoted to a nursing position unless she or he possesses the required certification.

Sales Workers

Nearly 6,000 sales workers will be required to fill openings between 1990 and 1991. Almost all will be replacements, because no growth is projected in this group. Retail sales will dominate the list of openings, although many of these will be part-time only. Stock clerks, cashiers, and sales supervisors make up another large portion of this group.

Clerical and Administrative

Although growth for this group is not expected to exceed 1,000, replacement needs are high for occupations such as bookkeeping and accounting clerks and general office clerks. Large numbers of general secretaries, receptionists and office managers will be in demand.

Service Workers

The service occupations are expected to account for over 11,000 total openings between 1990 and 1991, making this the group with the largest number of potential jobs. Within this category, janitors and cleaners will account for the greatest number of openings, because of the need for replacement workers. There will also be positions available for nurse aide/orderlies, food preparation workers, cooks, guards, bartenders, waiter/waitresses, and cosmetologists, in addition to child care workers, medical assistants, and home health aides. Nurse aide/orderly is also the occupation with the largest projected employment growth.

Agricultural Workers

Almost 3,400 net openings are expected to occur for this large but declining occupational group. Because of its large size, the farming occupation will require nearly 3,500 replacements from 1990-1991. Over 2,000 farmers will leave the labor force. An additional 1,195 openings for farm workers will occur. All of these will be replacements for workers who withdraw from the labor force.

Several hundred openings are expected for gardeners, groundskeepers, and farm managers. Overall employment for this group is expected to fall from 117,279 in 1988 to 112,405 in 1991, a drop of 4,874 workers.

Production, Construction, and Maintenance

The number of jobs in this category has been decreasing as a result of declining employment in the manufacturing and construction industries. As with other occupational groups, replacement needs are expected to provide the majority of openings. Plant closings in durable goods manufacturing have caused a net decrease in the number of production related jobs, while 1988 construction employment was less than two-thirds the 1979 level.

Between 1990 and 1991, it is expected that the largest number of jobs in this occupational category will be for truck drivers. Other occupations with anticipated vacancies are school bus drivers, maintenance repairers, slaughterers/butchers, general helpers, highway maintenance workers and automotive mechanics.

In some categories, the number of replacement openings may not be sufficient to counter-balance the decrease in total employment. Grinding and polishing workers, assemblers and fabricators, and welders and cutters are examples of occupations which are expected to experience a net decrease in total openings.

A. Projections

Two projected occupations, farmers and general managers, require some explanation because of their size and complexity.

Farmers: Farming employment is difficult to tabulate for the reason stated earlier in this section. The 1991 projected occupational level of 63,826 mainly represents self-employed farm operators regardless of farm ownership. It does not represent those wage and salaried workers who many farmers employ part-time and full-time to help run their farm operations. These farm workers are estimated to number 29,939 by 1991.

General Managers and Top Executives: This large category does not distinguish among large and small enterprises, therefore, the manager of a three-store ice cream chain may be included along with chief executive officers and executive staffers who direct the efforts of hundreds of people.

Occupations with the Greatest Projected Openings

Services, health, and education dominate the projections over those occupations within the manufacturing and construction industries. The effects of large farm and construction machinery layoffs of earlier years are still being felt and it may be well over a year before those industries can recall all of their former production employees and open the doors for new applicants.

Table 5.1 lists occupations that are expected to have the largest number of openings by 1991 because of both replacement needs and growth. Some occupations are actually declining in numbers, but because of size will have openings due to people retiring or otherwise leaving the labor force. It is ordered from largest to lowest total openings, with a cutoff of eighty.

Although growth in retail salespersons may drop slightly, there is a projected need of 2,267 replacements for this large occupational group by 1991.

High replacement rates in janitorial occupations will likewise create a demand for over 1,800 workers. Other occupations requiring large numbers of replacements are office clerks (1,260), farm workers (1,195), bookkeepers (1,182), and registered nurses (810).

Some occupations with the lowest projected total openings are postmasters and mail supervisors (100), social science teachers (86), and writers and editors (83).

TABLE 5.1

OCCUPATIONS WITH THE GREATEST NUMBER OF PROJECTED OPENINGS
STATE OF IOWA

TITLE	1988	1990	1991	REPLACEMENT NEEDS 1990 - 1991	GROWTH 1990 - 1991	TOTAL OPENINGS 1990 - 1991
SALESPERSONS, RETAIL	36,610	37,287	37,224	2,267	-63	2,204
JANITORS AND CLEANERS	21,822	22,542	22,711	1,882	169	2,051
GENERAL MANAGERS AND TOP EXECUTIVES	38,492	39,304	39,332	1,596	28	1,624
FARMERS, EXCEPT HORTICULTURE	70,336	66,019	63,826	3,473	-2,193	1,280
GENERAL OFFICE CLERKS	25,528	26,168	26,271	1,157	103	1,260
FARM WORKERS	28,885	29,970	29,939	1,226	-31	1,195
BOOKKEEPING, ACCOUNTING, AND AUDITING CLERKS	23,400	23,878	23,919	1,141	41	1,182
NURSING AIDES, ORDERLIES, AND ATTENDANTS	18,322	19,171	19,450	830	279	1,109
SECRETARIES, ALL OTHER	28,043	28,757	28,898	771	141	912
STOCK CLERKS, SALES FLOOR	16,227	16,525	16,498	874	-27	847
FOOD PREPARATION WORKERS	13,051	13,450	13,532	751	82	833
REGISTERED NURSES	20,953	21,803	22,081	532	278	810
MAIDS AND HOUSEKEEPING CLEANERS	7,793	8,158	8,272	634	114	748
CASHIERS	28,365	28,961	28,969	724	8	732
TEACHERS, ELEMENTARY	14,972	15,351	15,484	461	133	594
COOKS, INSTITUTION OR CAFETERIA	7,876	8,143	8,235	497	92	589
WAITERS AND WAITRESSES	23,662	24,250	24,288	490	38	528
TRUCK DRIVERS, HEAVY OR TRACTOR TRAILER	21,433	21,546	21,374	692	-172	520
TEACHERS, SECONDARY SCHOOL	16,399	16,816	16,962	341	146	487
RECEPTIONISTS AND INFORMATION CLERKS	7,842	8,148	8,242	381	94	475
FIRST LINE SUPERVISORS AND MANAGER/SUPERVISO	12,683	13,031	13,098	401	67	468
COOKS, SPECIALTY FAST FOOD	7,184	7,323	7,313	447	-10	437
OTHER SALES REPRESENTATIVES	11,306	11,409	11,353	492	-56	436
GUARDS	3,906	4,062	4,094	398	32	430
GARDENERS AND GROUNDSKEEPERS	3,461	3,575	3,610	391	35	426
HOUSEKEEPERS, INSTITUTIONAL	1,801	1,891	1,922	369	31	400
COOKS, RESTAURANT	5,907	6,057	6,070	369	13	382
BARTENDERS	7,196	7,420	7,458	342	38	380
FIRST LINE SUPERVISORS-SALES AND RELATED OCC	7,279	7,416	7,416	368	0	368
FOOD PREPARATION AND SERVICE WORKERS	10,797	11,022	11,017	363	-5	358
MAINTENANCE REPAIRERS, GENERAL UTILITY	11,303	11,492	11,471	362	-21	341
HELPERS, LABORERS, AND MATERIAL MOVERS, HAND	16,418	16,665	16,582	420	-83	337
BUS DRIVERS, SCHOOL	5,160	5,288	5,331	291	43	334
MANAGERS AND ADMINISTRATORS, ALL OTHER	6,895	7,106	7,150	288	44	332
SERVICE SUPERVISORS, ALL OTHER	4,830	4,985	5,017	285	32	317
MANAGERS, FARM EXCEPT HORTICULTURE	6,116	6,346	6,339	305	-7	298
ACCOUNTANTS AND AUDITORS	7,772	8,004	8,051	246	47	293
TEACHERS AND INSTRUCTORS, VOCATIONAL	4,483	4,624	4,671	245	47	292
PHYSICIANS AND SURGEONS	3,096	3,239	3,282	239	43	282
TRUCK DRIVERS-LIGHT,DELIVERY AND ROUTE WORKE	7,794	7,893	7,882	287	-11	276
LICENSED PRACTICAL NURSES	6,964	7,273	7,377	172	104	276
HAIRDRESSERS,STYLISTS,COSMETOLOGISTS,BARBERS	4,653	4,877	4,948	178	71	249
FINANCIAL MANAGERS	6,224	6,392	6,428	203	36	239
CLEANERS AND BUILDING SERVICE WORKERS, ALL O	2,594	2,648	2,661	218	13	231
LAUNDRY AND DRYCLEANING MACHINE OPERATORS	2,261	2,372	2,408	195	36	231
STOCK CLERKS, STOCKROOM, WAREHOUSE	7,657	7,797	7,770	254	-27	227

TABLE 5.1 (continued)

OCCUPATIONS WITH THE GREATEST NUMBER OF PROJECTED OPENINGS
STATE OF IOWA

TITLE	1988	1990	1991	REPLACEMENT NEEDS 1990 - 1991	GROWTH 1990 - 1991	TOTAL OPENINGS 1990 - 1991
TELLERS	6,278	6,463	6,545	138	82	220
FOOD SERVICE AND LODGING MANAGERS	4,773	4,902	4,923	199	21	220
AUTOMOTIVE MECHANICS	6,436	6,586	6,596	209	10	219
INSTRUCTORS AND COACHES, SPORTS,PHYSICAL TRA	3,155	3,278	3,321	173	43	216
LAWYERS	2,441	2,544	2,579	180	35	215
HIGHWAY MAINTENANCE WORKERS	5,348	5,467	5,508	168	41	209
SALES AND RELATED WORKERS, ALL OTHER	4,524	4,622	4,623	208	1	209
TYPISTS	5,948	6,119	6,168	158	49	207
FOOD SERVICE WORKERS, ALL OTHER	3,704	3,811	3,836	178	25	203
TEACHER AIDES, PARAPROFESSIONAL	3,202	3,287	3,315	174	28	202
SLAUGHTERERS AND BUTCHERS	6,508	6,588	6,637	146	49	195
HOME HEALTH AIDES	2,495	2,604	2,638	160	34	194
TEACHERS AND INSTRUCTORS, ALL OTHER	2,803	2,886	2,914	153	28	181
EDUCATION ADMINISTRATORS	4,387	4,518	4,560	136	42	178
SALESPERSONS, PARTS	4,656	4,718	4,714	174	-4	170
TEACHERS, ALL OTHER POST SECONDARY	3,778	3,898	3,940	125	42	167
TEACHER AIDES, CLERICAL	4,362	4,498	4,543	121	45	166
LIBRARIANS, PROFESSIONAL	2,205	2,258	2,278	144	20	164
FIRST LINE SUPERVISORS-MECHANICS,INSTALLERS,	5,006	5,100	5,102	161	2	163
RECREATION WORKERS	2,578	2,689	2,722	125	33	158
CLERICAL AND ADMINISTRATIVE WORKERS, ALL OTH	3,831	3,972	3,996	133	24	157
DINING ROOM AND CAFETERIA ATTENDANTS	5,284	5,436	5,461	126	25	151
CHILD CARE WORKERS	3,304	3,457	3,507	98	50	148
PROFESSIONAL,PARAPROFESSIONAL,RELATED WORKER	4,891	5,052	5,080	119	28	147
INSURANCE SALES WORKERS	2,232	2,306	2,335	110	29	139
SOCIAL WORKERS, EXCEPT MEDICAL	3,746	3,869	3,909	98	40	138
COUNTER AND RENTAL CLERKS	2,039	2,129	2,154	112	25	137
TEACHERS, SPECIAL EDUCATION	3,717	3,811	3,844	103	33	136
LOAN OFFICERS AND COUNSELORS	2,712	2,793	2,825	100	32	132
ADMINISTRATIVE SERVICES MANAGERS	2,522	2,608	2,632	106	24	130
SERVICE WORKERS, ALL OTHER	1,267	1,307	1,314	119	7	126
FREIGHT, STOCK, AND MATERIAL MOVERS, HAND, A	8,598	8,704	8,665	163	-39	124
PERSONNEL,TRAINING,LABOR RELATIONS SPECIALIS	3,464	3,616	3,654	84	38	122
TRAFFIC, SHIPPING, AND RECEIVING CLERKS	6,440	6,521	6,467	175	-54	121
AMUSEMENT AND RECREATION ATTENDANTS	2,221	2,312	2,344	89	32	121
SALES REPRESENTATIVES,SCIENTIFIC	3,083	3,109	3,095	134	-14	120
POSTAL MAIL CARRIERS	3,501	3,566	3,546	139	-20	119
MARKETING, ADVERTISING, PUBLIC RELATIONS MAN	4,041	4,150	4,164	102	14	116
SERVICE STATION ATTENDANTS	4,011	4,092	4,086	121	-6	115
TEACHERS, ART, DRAMA AND MUSIC	1,645	1,695	1,713	97	18	115
SWITCHBOARD OPERATORS	2,520	2,611	2,636	87	25	112
PROPERTY AND REAL ESTATE MANAGERS	857	885	897	97	12	109
HAND PACKERS AND PACKAGERS	5,993	6,060	6,016	151	-44	107
SEWING MACHINE OPERATORS, GARMENT	2,604	2,649	2,613	141	-36	105
SHERIFFS AND DEPUTY SHERIFFS	807	825	831	98	6	104
HOTEL DESK CLERKS	1,128	1,185	1,204	82	19	101

TABLE 5.1 (continued)

OCCUPATIONS WITH THE GREATEST NUMBER OF PROJECTED OPENINGS
STATE OF IOWA

TITLE	1988	1990	1991	REPLACEMENT NEEDS 1990 - 1991	GROWTH 1990 - 1991	TOTAL OPENINGS 1990 - 1991
POSTMASTERS AND MAIL SUPERVISORS	1,152	1,174	1,167	107	-7	100
HOSTS/HOSTESSES, RESTAURANT,LOUNGE OR COFFEE	1,940	1,987	1,989	93	2	95
LEGAL SECRETARIES	2,090	2,196	2,231	59	35	94
MUSICIANS, INSTRUMENTAL	1,397	1,469	1,492	71	23	94
INSPECTORS, TESTERS, AND GRADERS	2,818	2,883	2,863	113	-20	93
LIBRARY ASSISTANTS AND BOOKMOBILE DRIVERS	2,079	2,129	2,147	74	18	92
PRODUCTION INSPECTORS, TESTERS, GRADERS	4,226	4,285	4,240	135	-45	90
FILE CLERKS	2,318	2,395	2,420	65	25	90
MEDICAL SECRETARIES	2,004	2,101	2,133	56	32	88
HEALTH SERVICE WORKERS, ALL OTHER	785	817	829	75	12	87
TEACHERS, SOCIAL SCIENCE	1,803	1,859	1,878	67	19	86
BILLING, COST, AND RATE CLERKS	3,324	3,391	3,409	65	18	83
PHARMACISTS	1,625	1,663	1,669	77	6	83
WRITERS AND EDITORS	1,552	1,596	1,600	79	4	83
MANAGEMENT SUPPORT WORKERS, ALL OTHER	3,656	3,751	3,761	72	10	82
INSTRUCTORS, NONVOCATIONAL EDUCATION	1,163	1,217	1,295	64	18	82
TEACHERS, PRESCHOOL AND KINDERGARTEN	2,963	3,071	3,109	43	38	81
BAKERS, BREAD AND PASTRY	1,307	1,335	1,334	81	-1	80

Occupations with Declining Employment

Table 5.2 lists occupations that are expected to decline over the next few years. It is ordered from the largest decline to least decline with a cutoff at ten. Some of the declining occupations will also show up on Table 5.1, "Occupations with the Greatest Number of Projected Openings" because of the replacement needs in some large occupations.

Farmers lead occupations in terms of annual replacement openings, but this vocation is also experiencing the largest rate of decline in employment of all occupations. By 1991 it is estimated there will be 2,193 fewer farmers in Iowa than there were in 1988. As farmers retire or go out of business, some farms are being consolidated with larger operations. The trend toward more farm mechanization and automation enables larger acreages of farm land to be managed by fewer farmers.

Manufacturing and construction are also projected to post declining employment. Assemblers, production supervisors, and machine operators are projected to reduce employment levels by 410, 128, and 87 respectively. Carpenters, electricians, and helpers are expected to record similar reversals in employment.

Some occupations are stable with almost no projected decline, but they also have very low replacement needs. Examples include many skilled occupations such as machinists, machine setters, tool and die workers, machine mechanics, and mechanical engineers.

TABLE 5.2

OCCUPATIONS WITH DECLINING EMPLOYMENT
STATE OF IOWA

TITLE	1988	1990	1991	REPLACEMENT NEEDS 1990 - 1991	EMPLOYMENT DECLINE 1990 - 1991	PERCENT CHANGE 1990 - 1991
FARMERS, EXCEPT HORTICULTURE	70,336	66,019	63,826	3,473	-2,193	-3.3
ASSEMBLERS AND FABRICATORS, ALL OTHER	16,013	16,268	15,858	337	-410	-2.5
TRUCK DRIVERS, HEAVY OR TRACTOR TRAILER	21,433	21,546	21,374	692	-172	-0.7
CARPENTERS	4,646	4,402	4,271	175	-131	-2.9
FIRST LINE SUPERVISORS, PRODUCTION	7,097	7,170	7,042	193	-128	-1.7
WELDERS AND CUTTERS	4,162	4,197	4,097	71	-100	-2.3
ELECTRICIANS	3,989	3,852	3,760	101	-92	-2.3
MACHINE OPERATORS AND TENDERS, ALL OTHER	4,302	4,317	4,230	93	-87	-2.0
HELPERS, LABORERS, AND MATERIAL MOVERS, HAND	16,418	16,665	16,582	420	-83	-0.4
FIRST LINE SUPERVISORS, CONSTRUCTION	2,365	2,294	2,224	52	-70	-3.0
SALESPERSONS, RETAIL	36,610	37,287	37,224	2,267	-63	-0.1
PLUMBERS, PIPEFITTERS, AND STEAMFITTERS	2,463	2,342	2,279	70	-63	-2.6
HELPERS - CARPENTERS AND RELATED	1,458	1,379	1,317	51	-62	-4.4
PACKAGING & FILLING MACH OPERATORS & TENDERS	3,711	3,691	3,629	66	-62	-1.6
INDUSTRIAL TRUCK AND TRACTOR OPERATORS	5,952	6,038	5,978	109	-60	-0.9
HAND WORKERS, ALL OTHER	2,583	2,609	2,551	85	-58	-2.2
MACHINISTS	3,887	3,923	3,867	77	-56	-1.4
OTHER SALES REPRESENTATIVES	11,306	11,409	11,353	492	-56	-0.4
TRAFFIC, SHIPPING, AND RECEIVING CLERKS	6,440	6,521	6,467	175	-54	-0.8
CONSTRUCTION MANAGERS	1,563	1,507	1,457	61	-50	-3.3
MACHINE FORMING OPERATORS AND TENDERS	2,941	2,960	2,910	47	-50	-1.6
CONCRETE AND TERRAZZO FINISHERS	1,248	1,176	1,128	32	-48	-4.0
PRODUCTION INSPECTORS, TESTERS, GRADERS	4,226	4,285	4,240	135	-45	-1.0
LATHE MACHINE TOOL SETTERS AND SET-UP OPERAT	1,419	1,441	1,397	27	-44	-3.0
HAND PACKERS AND PACKAGERS	5,993	6,060	6,016	151	-44	-0.7
MACHINE TOOL CUTTING OPERATORS AND TENDERS	2,368	2,376	2,334	41	-42	-1.7
HEATING, AIR CONDITIONING, AND REFRIGERATION	1,617	1,558	1,517	48	-41	-2.6
COST ESTIMATORS	1,468	1,413	1,372	28	-41	-2.8
GRADER, DOZER, AND SCRAPER OPERATORS	745	775	734	38	-41	-5.2
OPERATING ENGINEERS	1,576	1,586	1,546	34	-40	-2.5
INDUSTRIAL PRODUCTION MANAGERS	2,241	2,272	2,232	92	-40	-1.7
INDUSTRIAL MACHINERY MECHANICS	2,404	2,424	2,384	46	-40	-1.6
FREIGHT, STOCK, AND MATERIAL MOVERS, HAND, A	8,598	8,704	8,665	163	-39	-0.4
CRUSHING AND MIXING MACHINE OPERATORS AND TE	2,055	2,045	2,007	57	-38	-1.8
METAL AND PLASTIC MACHINE OPERATORS/TENDERS,	892	906	870	19	-36	-3.9
SEWING MACHINE OPERATORS, GARMENT	2,604	2,649	2,613	141	-36	-1.3
WELDING MACHINE SETTERS AND SET-UP OPERATORS	1,393	1,403	1,368	24	-35	-2.4
PAINTERS AND PAPERHANGERS	1,639	1,589	1,555	74	-34	-2.1
SHEET METAL WORKERS	1,189	1,148	1,114	24	-34	-2.9
TOOL AND DIE MAKERS	1,879	1,908	1,875	50	-33	-1.7
PAVING, SURFACING, AND TAMPING EQUIPMENT OPE	791	835	804	8	-31	-3.7
FARM WORKERS	28,885	29,970	29,939	1,226	-31	0.0
ROOFERS	840	770	740	11	-30	-3.8
ENGINEERS, MECHANICAL	1,764	1,799	1,770	47	-29	-1.6
NUMERICAL CONTROL MACHINE TOOL OPERATORS/TEN	1,199	1,215	1,187	13	-28	-2.2
STRUCTURAL METAL WORKERS	689	637	610	8	-27	-4.2

TABLE 5.2 (continued)

OCCUPATIONS WITH DECLINING EMPLOYMENT
STATE OF IOWA

TITLE	1988	1990	1991	REPLACEMENT NEEDS 1990 - 1991	EMPLOYMENT DECLINE 1990 - 1991	PERCENT CHANGE 1990 - 1991
STOCK CLERKS, SALES FLOOR	16,227	16,525	16,498	874	-27	-0.1
STOCK CLERKS, STOCKROOM, WAREHOUSE	7,657	7,797	7,770	254	-27	-0.3
GRINDING MACHINE SETTERS AND SET-UP OPERATOR	679	684	658	12	-26	-3.7
DRILL.&BORE MACH TOOL SETTERS & S.U. OPER.,	827	843	818	12	-25	-2.9
METAL/PLASTIC MACHINE SETTERS/SET-UP OPERATO	607	620	596	13	-24	-3.8
MACHINE BUILDERS AND OTHER PRECISION MACHINE	1,225	1,249	1,225	26	-24	-1.9
HELPERS - BRICK AND STONE MASONS	651	597	573	22	-24	-4.0
MACHINE FEEDERS AND OFFBEARERS	2,577	2,612	2,588	47	-24	-0.9
CANNERY WORKERS	1,320	1,304	1,281	42	-23	-1.7
EXCAVATING AND LOADING MACHINE OPERATORS	576	579	557	15	-22	-3.7
MACHINE SETTERS AND SET-UP OPERATORS, ALL OT	513	518	496	11	-22	-4.2
BRICK MASONS	591	544	522	16	-22	-4.0
MAINTENANCE REPAIRERS, GENERAL UTILITY	11,303	11,492	11,471	362	-21	-0.1
POSTAL MAIL CARRIERS	3,501	3,566	3,546	139	-20	-0.5
INSPECTORS, TESTERS, AND GRADERS	2,818	2,883	2,863	113	-20	-0.6
EXTRUD.FORM.PRESS. & COMPACT. MACH.OPER & TE	1,128	1,138	1,118	28	-20	-1.7
WELDING MACHINE OPERATORS AND TENDERS	818	828	808	14	-20	-2.4
MACHINE ASSEMBLERS	557	566	547	12	-19	-3.3
PRODUCTION, PLANNING, AND EXPEDITING CLERKS	1,859	1,898	1,879	64	-19	-0.9
MOBILE HEAVY EQUIPMENT MECHANICS	859	878	859	21	-19	-2.1
PUNCHING MACHINE SETTERS AND SET-UP OPERATOR	834	852	833	17	-19	-2.2
PURCHASING AGENTS, EXCEPT WHOLESALE	1,407	1,430	1,413	48	-17	-1.1
GRINDING AND POLISHING WORKERS	834	844	827	0	-17	-2.0
SEWING MACHINE OPERATORS, NON-GARMENT	885	887	870	47	-17	-1.9
ELECTRICAL/ELECTRONIC EQUIPMENT ASSEMBLERS -	1,785	1,830	1,814	27	-16	-0.8
DRIVER/SALES WORKERS	1,999	2,015	1,999	49	-16	-0.7
HELPERS - PLUMBERS, PIPEFITTERS	456	421	405	16	-16	-3.7
ENGINEERS, INDUSTRIAL, EXCEPT SAFETY	1,065	1,085	1,069	17	-16	-1.4
MILLWRIGHTS	569	553	537	20	-16	-2.8
PIPELAYERS	540	547	531	17	-16	-2.9
MECHANICS, INSTALLERS,AND REPAIRERS, ALL OTH	1,949	1,976	1,961	62	-15	-0.7
PLASTIC MOLDING AND CASTING MACHINE OPERATOR	1,329	1,375	1,360	19	-15	-1.0
PAINTING MACHINE OPERATORS	701	717	703	11	-14	-1.9
MACHINERY MAINTENANCE WORKERS	850	861	847	16	-14	-1.6
PRESS MACHINE SETTERS AND SET-UP OPERATORS	756	764	750	15	-14	-1.8
COMBINATION MACHINE TOOL SETTERS/SET-UP OPER	522	529	515	10	-14	-2.6
COMBINATION MACHINE TOOL OPERATORS AND TENDE	556	561	547	11	-14	-2.4
SALES REPRESENTATIVES,SCIENTIFIC	3,083	3,109	3,095	134	-14	-0.4
MECHANICAL ENGINEERING TECHNICIANS	529	546	533	8	-13	-2.3
AIR HAMMER OPERATORS	200	210	197	6	-13	-6.1
INSULATION WORKERS	334	307	295	4	-12	-3.8
FOOD BATCHMAKERS	384	377	365	7	-12	-3.1
DESIGNERS, EXCEPT INTERIOR	1,528	1,563	1,551	40	-12	-0.7
FIRST LINE SUPERVISORS,HELPERS,LABORERS	787	797	785	37	-12	-1.4
DAIRY PROCESSING EQUIPMENT OPERATORS	404	397	385	9	-12	-3.0
PAINTING MACHINE SETTERS AND SET-UP OPERATOR	627	631	620	10	-11	-1.7

TABLE 5.2 (continued)

OCCUPATIONS WITH DECLINING EMPLOYMENT
STATE OF IOWA

TITLE	1988	1990	1991	REPLACEMENT NEEDS 1990 - 1991	EMPLOYMENT DECLINE 1990 - 1991	PERCENT CHANGE 1990 - 1991
TRUCK DRIVERS-LIGHT,DELIVERY AND ROUTE WORKE	7,794	7,893	7,882	287	-11	-0.1
FIRST LINE SUPERVISORS-TRANSPORTATION,MATERI	1,159	1,161	1,150	32	-11	-0.9
ENGINEERING, MATH AND NATURAL	1,808	1,867	1,856	76	-11	-0.5
SHEET METAL DUCT INSTALLERS	293	269	258	6	-11	-4.0
TELEPHONE AND CABLE TV LINE INSTALLERS	1,020	1,017	1,006	9	-11	-1.0
DRYWALL INSTALLERS	294	270	260	3	-10	-3.6
PRECISION FOOD AND TOBACCO WORKERS, ALL OTHE	375	367	357	7	-10	-2.7
TOOL GRINDERS, FILERS,SHARPENERS,& OTHER PRE	571	584	574	21	-10	-1.7
ORDER CLERKS	2,368	2,403	2,393	71	-10	-0.4
COOKS, SPECIALTY FAST FOOD	7,184	7,323	7,313	447	-10	-0.1
TIRE BUILDING MACHINE OPERATORS	625	637	627	14	-10	-1.5

Occupations with the Greatest Growth Potential

Table 5.3 lists occupations which may experience the greatest growth in employment through 1991. It is in order from largest to least growth with a cutoff of 25.

Medical service occupations head the table with nursing aides projected growth of 279, followed by registered nurses growth of 278. Secondary and elementary school teachers are also among Iowa's greatest growth occupations with projected levels of 146 and 133 respectively.

Some occupations with low projected growth by 1991 are legal secretaries (35), loan officers (32), insurance sales workers (29), and switchboard operators (25).

TABLE 5.3

OCCUPATIONS WITH THE GREATEST GROWTH POTENTIAL
STATE OF IOWA

TITLE	1988	1990	1991	REPLACEMENT NEEDS 1990 - 1991	GROWTH 1990 - 1991	TOTAL OPENINGS 1990 - 1991
NURSING AIDES, ORDERLIES, AND ATTENDANTS	18,322	19,171	19,450	830	279	1,109
REGISTERED NURSES	20,953	21,803	22,081	532	278	810
JANITORS AND CLEANERS	21,822	22,542	22,711	1,882	169	2,051
TEACHERS, SECONDARY SCHOOL	16,399	16,816	16,962	341	146	487
SECRETARIES, ALL OTHER	28,043	28,757	28,898	771	141	912
TEACHERS, ELEMENTARY	14,972	15,351	15,484	461	133	594
MAIDS AND HOUSEKEEPING CLEANERS	7,793	8,158	8,272	634	114	748
LICENSED PRACTICAL NURSES	6,964	7,273	7,377	172	104	276
GENERAL OFFICE CLERKS	25,528	26,168	26,271	1,157	103	1,260
RECEPTIONISTS AND INFORMATION CLERKS	7,842	8,148	8,242	381	94	475
COOKS, INSTITUTION OR CAFETERIA	7,876	8,143	8,235	497	92	589
FOOD PREPARATION WORKERS	13,051	13,450	13,532	751	82	833
TELLERS	6,278	6,463	6,545	138	82	220
HAIRDRESSERS,STYLISTS,COSMETOLOGISTS,BARBERS	4,653	4,877	4,948	178	71	249
FIRST LINE SUPERVISORS AND MANAGER/SUPERVISO	12,683	13,031	13,098	401	67	468
CHILD CARE WORKERS	3,304	3,457	3,507	98	50	148
SLAUGHTERERS AND BUTCHERS	6,508	6,588	6,637	146	49	195
TYPISTS	5,948	6,119	6,168	158	49	207
ACCOUNTANTS AND AUDITORS	7,772	8,004	8,051	246	47	293
TEACHERS AND INSTRUCTORS, VOCATIONAL	4,483	4,624	4,671	245	47	292
TEACHER AIDES, CLERICAL	4,362	4,498	4,543	121	45	166
MANAGERS AND ADMINISTRATORS, ALL OTHER	6,895	7,106	7,150	288	44	332
BUS DRIVERS, SCHOOL	5,160	5,288	5,331	291	43	334
INSTRUCTORS AND COACHES, SPORTS,PHYSICAL TRA	3,155	3,278	3,321	173	43	216
PHYSICIANS AND SURGEONS	3,096	3,239	3,282	239	43	282
EDUCATION ADMINISTRATORS	4,387	4,518	4,560	136	42	178
TEACHERS, ALL OTHER POST SECONDARY	3,778	3,898	3,940	125	42	167
BOOKKEEPING, ACCOUNTING, AND AUDITING CLERKS	23,400	23,878	23,919	1,141	41	1,182
HIGHWAY MAINTENANCE WORKERS	5,348	5,467	5,508	168	41	209
SOCIAL WORKERS, EXCEPT MEDICAL	3,746	3,869	3,909	98	40	138
WAITERS AND WAITRESSES	23,662	24,250	24,288	490	38	528
BARTENDERS	7,196	7,420	7,458	342	38	380
PERSONNEL,TRAINING,LABOR RELATIONS SPECIALIS	3,464	3,616	3,654	84	38	122
TEACHERS, PRESCHOOL AND KINDERGARTEN	2,963	3,071	3,109	43	38	81
FINANCIAL MANAGERS	6,224	6,392	6,428	203	36	239
LAUNDRY AND DRYCLEANING MACHINE OPERATORS	2,261	2,372	2,408	195	36	231
GARDENERS AND GROUNDSKEEPERS	3,461	3,575	3,610	391	35	426
LAWYERS	2,441	2,544	2,579	180	35	215
LEGAL SECRETARIES	2,090	2,196	2,231	59	35	94
HOME HEALTH AIDES	2,495	2,604	2,638	160	34	194
TEACHERS, SPECIAL EDUCATION	3,717	3,811	3,844	103	33	136
RECREATION WORKERS	2,578	2,689	2,722	125	33	158
SERVICE SUPERVISORS, ALL OTHER	4,830	4,985	5,017	285	32	317
GUARDS	3,906	4,062	4,094	398	32	430
LOAN OFFICERS AND COUNSELORS	2,712	2,793	2,825	100	32	132
AMUSEMENT AND RECREATION ATTENDANTS	2,221	2,312	2,344	89	32	121

TABLE 5.3 (continued)

OCCUPATIONS WITH THE GREATEST GROWTH POTENTIAL
STATE OF IOWA

TITLE	1988	1990	1991	REPLACEMENT NEEDS 1990 - 1991	GROWTH 1990 - 1991	TOTAL OPENINGS 1990 - 1991
MEDICAL SECRETARIES	2,004	2,101	2,133	56	32	88
HOUSEKEEPERS, INSTITUTIONAL	1,801	1,891	1,922	369	31	400
INSURANCE SALES WORKERS	2,232	2,306	2,335	110	29	139
GENERAL MANAGERS AND TOP EXECUTIVES	38,492	39,304	39,332	1,596	28	1,624
PROFESSIONAL,PARAPROFESSIONAL,RELATED WORKER	4,891	5,052	5,080	119	28	147
TEACHER AIDES, PARAPROFESSIONAL	3,202	3,287	3,315	174	28	202
TEACHERS AND INSTRUCTORS, ALL OTHER	2,803	2,886	2,914	153	28	181
DINING ROOM AND CAFETERIA ATTENDANTS	5,284	5,436	5,461	126	25	151
FOOD SERVICE WORKERS, ALL OTHER	3,704	3,811	3,836	178	25	203
SWITCHBOARD OPERATORS	2,520	2,611	2,636	87	25	112
FILE CLERKS	2,318	2,395	2,420	65	25	90
COUNTER AND RENTAL CLERKS	2,039	2,129	2,154	112	25	137

B. New Occupations

With the arrival of new technologies, new occupations often emerge while others decline and expire. For example, at one time 50,000 workers were employed in physically separating the yolks and whites of eggs. Today this occupation no longer exists; machines have taken the workers' places. However, someone had to design and build the new separating machines and someone is running and maintaining the machines; several new occupations were created.

New Occupations can be described as job categories which have come into existence during the last 10 years and have reached employment levels large enough to measure.

Most new occupations are the result of something called "High Technology". High technology can be described as products or services that are much more sophisticated than previous methods and usually involve electronic systems to control, monitor and display them. Examples of high technology frequently include the computer industry which has grown so rapidly that some of its vocations are already declining, such as keypunch operators. One fast-growing occupation in this field is computer software programmer. Many specialists are needed to develop software for advanced data processing and data graphics applications on mainframe and micro computers.

Powerful data processing and graphics programming is becoming affordable and widely accepted by large numbers of firms. This is resulting in increased employment of data processing and computer-aided-design (CAD) workers in varied industries such as manufacturing, medicine, and engineering. Even advertising agencies and office supply firms now employ CAD operators.

Another example of high technology is the robotics industry. Today's robots are programmable machines which are being produced to perform repetitous tasks such as welding, painting, counting and bagging nuts and bolts, moving hazardous materials, etc. They are rapidly replacing workers who's jobs are unsafe, stressful, tedious or expensively labor intensive.

Like the egg white separator, this industry has resulted in a transformation of workers from old occupations to new occupations. Examples of new occupations involving robotics are robot attendants and robot technicians. Robot attendants operate the machines and perform some routine servicing and adjustments much like previous generation machine attendants. Meeting increasing demand for robot attendants should not be difficult because training for these positions is short and fairly easy. The attendants' value in the labor marketplace will grow as he or she becomes experienced on a number of robotic models or types.

Robot technicians are people who install, repair and maintain robotics. Their high level skills are similar to those of radar, communications

and computer equipment technicians. Extensive instruction is necessary in basic mathematics, electronic and hydraulic principles, mechanics, etc.

Another occupation in this field is robotic engineer. These people design and supervise the building of robots as well as plan and manage the production arrangements which surround them. Reportedly, there is already a shortage in this occupation in some large manufacturing states.

Iowa's universities and vocational schools are training high technology scientists, engineers, and technicians. This labor supply may be instrumental in encouraging Iowa firms to invest in high technology equipment used to produce their goods and services. This in turn could generate interest in manufacturing such products in Iowa.

Presently, a large percentage of this skilled labor force is finding employment in Iowa. In 1988, over half of Des Moines Area Community College graduating robotics technicians found employment within the state. In addition, many university engineering or industrial technology graduates with training in robotics are joining Iowa firms to help manage high technology equipment.

A complete discussion of high technology occupations in Iowa is offered in the publication entitled NEW AND EMERGING OCCUPATIONS IN THE COMPUTER AND ROBOTICS FIELDS, available from the Iowa State Occupational Information Coordinating Committee, 200 East Grand Avenue, Des Moines, Iowa 50309.

SECTION 6

LABOR SUPPLY AND DEMAND

LABOR SUPPLY AND DEMAND

Iowa ranks 37 in the states in terms of projected labor demand and is projected to rank 42 by the year 2000. This does not mean that Iowa will lose jobs; instead, it means that other states are expected to experience faster job growth. This is illustrated in Table 6.1.

The remainder of this section provides information on job openings and applicants and is based entirely on data from the Job Service Division of Iowa Department of Employment Services. The data are statewide in scope and most occupational data include Dictionary of Occupational Titles codes. For purposes of analysis, Job Service openings for less than 150 days of work were not included in this report.

Much information about the labor supply is available, such as size of the labor force, gender, race, age groups, and county of residence. Also, the number of people holding multiple jobs, crossing state borders to work, changing jobs, etc., can be estimated.

On the other hand, demand for labor services is more elusive. Firms that are expanding or closing may not publicize their plans in advance. Short-term events like weather, fluctuations in imports/exports, etc., leave little time for job planning. Mergers, buy-outs, and the ability of companies to relocate all contribute to the uncertainty of demand for workers.

Labor demand and supply are tempered by factors such as wages, salaries, and hours of work. A high number of openings at low wages may not be perceived by workers as a high demand for labor. If the openings offer meager fringe benefits or short work weeks without potential for overtime pay, an apparent shortage of applicants may result. A large number of unemployed people who are seeking high wages may not be considered by employers as a large labor pool. For example, workers who are laid off from high paying jobs may experience difficulty in getting hired by other firms in the area, especially if the worker is eligible for recall to his or her former position.

TABLE 6.1
STATE RANKING OF PROJECTED NEW JOBS
(Based on Percentage Change)

	1988-1990		1988-2000	
	NEW JOBS	RANK	NEW JOBS	RANK
ALABAMA	55,000	40	176,000	43
ALASKA	4,000	49	36,000	16
ARIZONA	101,000	4	354,000	3
ARKANSAS	37,000	34	110,000	35
CALIFORNIA	787,000	7	2,739,000	5
COLORADO	65,000	30	305,000	8
CONNECTICUT	90,000	18	251,000	22
DELAWARE	24,000	3	80,000	4
DISTRICT OF COLUMBIA	11,000	50	73,000	47
FLORIDA	113,000	2	1,416,000	2
GEORGIA	150,000	19	561,000	11
HAWAII	26,000	9	100,000	9
IDAHO	15,000	32	47,000	29
ILLINOIS	247,000	22	673,000	30
INDIANA	110,000	27	297,000	39
IOWA	47,000	37	132,000	42
KANSAS	43,000	36	126,000	40
KENTUCKY	62,000	29	159,000	41
LOUISIANA	47,000	47	232,000	20
MAINE	28,000	17	70,000	31
MARYLAND	114,000	14	394,000	12
MASSACHUSETTS	173,000	13	422,000	28
MICHIGAN	183,000	23	539,000	24
MINNESOTA	96,000	26	274,000	27
MISSISSIPPI	31,000	42	83,000	51
MISSOURI	84,000	38	250,000	45
MONTANA	10,000	43	35,000	37
NEBRASKA	21,000	46	69,000	48
NEVADA	50,000	1	172,000	1
NEW HAMPSHIRE	36,000	6	94,000	14
NEW JERSEY	178,000	24	547,000	23
NEW MEXICO	29,000	16	117,000	7
NEW YORK	378,000	28	1,158,000	26
NORTH CAROLINA	159,000	15	455,000	19
NORTH DAKOTA	9,000	44	28,000	46
OHIO	210,000	31	616,000	32
OKLAHOMA	36,000	45	155,000	25
OREGON	59,000	20	178,000	18
PENNSYLVANIA	244,000	25	640,000	36
RHODE ISLAND	25,000	12	59,000	34
SOUTH CAROLINA	73,000	21	216,000	21
SOUTH DAKOTA	10,000	39	29,000	44
TENNESSEE	88,000	35	259,000	38
TEXAS	233,000	41	1,121,000	15
UTAH	37,000	10	135,000	10
VERMONT	14,000	11	41,000	17
VIRGINIA	192,000	5	616,000	6
WASHINGTON	114,000	8	336,000	13
WEST VIRGINIA	16,000	48	59,000	50
WISCONSIN	95,000	33	277,000	33
WYOMING	2,000	51	18,000	49

SOURCE: Data Resources Inc.

TABLE 6.2

JOB OPENINGS BY INDUSTRY
YEARS ENDING DEC 1987 AND 1988
STATE OF IOWA

SIC CODE	INDUSTRY TITLE	YEAR ENDING SEPT 1988	YEAR ENDING SEPT 1987	CHANGE	PERCENT CHANGE
	TOTAL	78,491	67,995	10,496	15.44
01	AGRICULTURAL PRODUCTION-CROPS	294	292	2	0.68
02	AGRICULTURAL PRODUCTION-LIVESTOCK	250	252	-2	-0.79
07	AGRICULTURAL SERVICES	506	350	156	44.57
08	FORESTRY	8	19	-11	-57.89
09	FISHING,HUNTING,TRAPPING	5	2	3	150.00
10	METAL MINING	6	14	-8	-57.14
12	BITUMINOUS COAL MINING	11	7	4	57.14
13	OIL AND GAS EXTRACTION	3	3	0	0.00
14	NONMETALIC MINING AND QUARRYING	67	36	31	86.11
15	BUILDING CONSTRUCTION	1,249	789	460	58.30
16	CONSTRUCTION OTHER	832	743	89	11.98
17	CONSTRUCTION-SPECIAL TRADE CONTRACTORS	1,905	1,285	620	48.25
20	FOOD AND KINDRED PRODUCTS	5,882	5,806	76	1.31
21	TOBACCO MANUFACTURES	26	14	12	85.71
22	TEXTILE MILL PRODUCTS	51	54	-3	-5.56
23	APPAREL	857	605	252	41.65
24	LUMBER AND WOOD PRODUCTS	850	686	164	23.91
25	FURNITURE AND FIXTURES	393	432	-39	-9.03
26	PAPER AND ALLIED PRODUCTS	425	305	120	39.34
27	PRINTING AND PUBLISHING	1,374	801	573	71.54
28	CHEMICALS AND ALLIED PRODUCTS	331	350	-19	-5.43
29	PETROLEUM REFINING	13	10	3	30.00
30	RUBBER AND PLASTICS	2,284	1,139	1,145	100.53
31	LEATHER PRODUCTS	127	167	-40	-23.95
32	STONE CLAY AND GLASS	422	413	9	2.18
33	PRIMARY METALS	531	606	-75	-12.38
34	FABRICATED METALS	2,280	1,700	580	34.12
35	MACHINERY,EXCEPT ELECTRICAL	2,944	1,949	995	51.05
36	ELECTRICAL MACHINERY	1,351	1,205	146	12.12
37	TRANSPORTATION EQUIPMENT	1,567	1,460	107	7.33
38	MEASURING,ANALYZING,CONTROLLING	183	184	-1	-0.54
39	MISCELLANEOUS MANUFACTURING	850	378	472	124.87
40	RAILROAD TRANSPORTATION	142	18	124	688.89
41	LOCAL AND SUBURBAN TRANSIT	163	108	55	50.93
42	MOTOR FREIGHT TRANSPORTATION	2,069	1,893	176	9.30
43	US POSTAL SERVICE	69	11	58	527.27
44	WATER TRANSPORTATION	28	34	-6	-17.65
45	TRANSPORTATION BY AIR	59	32	27	84.38
46	PIPE LINES	9	7	2	28.57
47	TRANSPORTATION SERVICES	78	91	-13	-14.29
48	COMMUNICATION	379	465	-86	-18.49
49	ELECTRIC,GAS,SANITARY SERVICES	210	221	-11	-4.98
50	WHOLESALE TRADE-DURABLE GOODS	2,045	1,622	423	26.08
51	WHOLESALE TRADE-NONDURABLE GOODS	1,728	1,724	4	0.23
52	BUILDING MATERIALS	679	593	86	14.50

TABLE 6.2 (continued)

JOB OPENINGS BY INDUSTRY
YEARS ENDING DEC 1987 AND 1988
STATE OF IOWA

SIC CODE	INDUSTRY TITLE	YEAR ENDING SEPT 1988	YEAR ENDING SEPT 1987	CHANGE	PERCENT CHANGE
53	GENERAL MERCHANDISE STORES	2,178	2,506	-328	-13.09
54	FOOD STORES	2,319	1,942	377	19.41
55	AUTOMOTIVE DEALERS	2,161	1,588	573	36.08
56	APPAREL STORES	601	633	-32	-5.06
57	FURNITURE STORES	606	519	87	16.76
58	EATING AND DRINKING PLACES	8,042	8,213	-171	-2.08
59	MISCELLANEOUS RETAIL	1,744	1,557	187	12.01
60	BANKING	687	533	154	28.89
61	CREDIT AGENCIES	268	490	-222	-45.31
62	SECURITY BROKERS	90	48	42	87.50
63	INSURANCE	406	271	135	49.82
64	INSURANCE AGENTS	643	475	168	35.37
65	REAL ESTATE	605	416	189	45.43
66	MISCELLANEOUS FINANCE	3	10	-7	-70.00
67	HOLDING AND OTHER INVESTMENT OFFICES	27	32	-5	-15.63
70	HOTELS	2,176	1,713	463	27.03
72	PERSONAL SERVICES	928	729	199	27.30
73	BUSINESS SERVICES	5,088	5,274	-186	-3.53
75	AUTOMOTIVE REPAIR	940	712	228	32.02
76	MISCELLANEOUS REPAIR SERVICES	387	305	82	26.89
78	MOTION PICTURES	105	111	-6	-5.41
79	AMUSEMENT AND RECREATION	598	484	114	23.55
80	HEALTH SERVICES	3,471	3,597	-126	-3.50
81	LEGAL SERVICES	230	237	-7	-2.95
82	EDUCATIONAL SERVICES	855	705	150	21.28
83	SOCIAL SERVICES	1,407	1,336	71	5.31
84	MUSEUMS	13	5	8	160.00
86	MEMBERSHIP ORGANIZATIONS	738	547	191	34.92
87	MEMBERSHIP ORGANIZATIONS	362	0	-	-
88	PRIVATE HOUSEHOLDS	1,801	1,832	-31	-1.69
89	MISCELLANEOUS SERVICES	351	430	-79	-18.37
90	GOVERNMENT	3,126	1,870	1,256	67.17

SOURCE: LABOR MARKET INFORMATION UNIT, DEPARTMENT OF EMPLOYMENT SERVICES

A. Job Service Openings and Applicants - Occupational Groups

In 1988, Job Service received 79,384 openings, an increase of 11,797 from 1987. This reflects Iowa's nonagricultural wage and salary employment which reached record levels in Iowa during 1988. The number of available applicants dropped somewhat from 235,494 in 1987 to 226,203 in 1988 as the unemployment level lowered statewide.

Professional, Technical, and Managerial Occupations

This group had 4,134 Job Service openings and 22,318 applicants in 1988. The Management Trainee occupation had the most openings (268) and this was met with the same occupation recording the most applicants (2,043). The three next highest number of openings occurred in General Duty Nurse (171), Licensed Practical Nurse (165) and Retail Store Manager (163). These were not always matched with a proportionate number of applicants, however. The three largest occupations were Retail Store Manager (1,407), Accountant (805), and Office Manager (758). The applicant to opening ratio was 5.4 overall.

Clerical Occupations

In 1988, 14,289 openings were recorded along with 43,924 applicants in this category. The largest number of openings was for General Clerk (2,073) which was matched with the highest number of applicants (8,825). The three next highest openings were in the occupations of Cashier-Checker (1,382), Administrative Clerk (1,370), and Secretary (909). These were proportionately matched fairly well with the three next highest number of applicants: Secretary (4,073), Cashier-Checker (3,888) and Administrative Clerk (3,556). The ratio was 3.07.

Sales Occupations

Job Service recorded 6,651 openings for sales occupations in 1988, which were answered with 15,052 applicants within that group. The greatest number of openings occurred for the occupation of Sales Clerk (1,989). This occupation was matched with the highest number of applicants (6,605). The three next highest occupations were Telephone Solicitor (1,009), Merchandise Deliverer (528), and Self-Service-Store Stock Clerk (438). The three next greatest number of applicants indicated preferences for General Merchandise Sales Representative (1,689), Route Sales Driver (943), and Self-Service-Store Stock Clerk (710). The applicant/opening ratio was 2.26.

Services

This group had the largest volume of both openings (18,699) and applicants (33,932) in 1988. The occupation of Waiter/Waitress recorded the greatest number of openings (2,459) and applicants (3,606). The three next highest occupations were Nurse Aide (1,097), Commercial or Institutional Cleaner (1,088), and Housekeeping Cleaner (786). Those were fairly well matched with a proportionate number of applicants, the

three highest being Nurse Aide (2,797), Commercial Cleaner (1,772), and Child Monitor (1,503). Housekeeping Cleaner followed with 1,193 applicants in that occupation. The applicant to opening ratio was 1.81.

Agriculture

This is a huge vocational group in the state of Iowa, but since most farm owners and operators are self-employed, Job Service receives relatively few openings. In 1988, 1,356 openings were recorded, but 9,571 applicants resulted in an applicant/openings ratio of 7.06. None of the occupations had over 200 openings, but there were 253 applicants for Groundskeepers, 842 applicants for General Farmworkers, and 5,844 applicants for Grain Farmworkers. This high number includes applicants for part-time work in the occupations of detasseler and seed sorters.

Processing

This occupational group recorded 7,070 openings in 1988, an increase of 922 above 1987. The number of applicants dropped 389 from 11,073 in 1987 to 10,684 in 1988. This reflected improving manufacturing employment and Iowa's overall low unemployment rate for 1988. The highest number of openings were recorded for the occupation of Slaughtering Laborer (1,693) and was matched by the highest number of applicants (3,646). The three next highest occupations were General Labor, Rubber (1,363), Meat Boner (893), and Production Helper, Food Preparation (343). The three next greatest size categories of applicants were General Laborer, Metals (1,166), Meat Boner (968), and Production Helper, Food Preparation (902). The applicant/opening ratio was 1.51 for this occupational group in 1988.

Machine Trades

There were 5,304 openings and 15,905 applicants for this occupational group in 1988. Two occupations tied for the highest openings. They were Production Machine Tender and Automobile Mechanic, both with 541 openings. These two occupations also had the greatest number of applicants: Production Machine Tender recorded 2,896 and Automobile Mechanic had 2,116 applicants. The occupation of Machine Operator I had 460 openings and 1,348 applicants and the Numerical Control Lathe Operator occupation was recorded with 1,510 applicants for 223 openings. The applicant to opening ratio was 3.0 for 1988.

Benchwork

This occupational group received 6,871 openings at Job Service in 1988, an increase of 2,363 from the previous year. The number of applicants also increased to 23,895 in 1988 from 18,859 in 1987. The applicants to openings ratio lowered from 4.18 to 3.48, reflecting increased employment in this sector for 1988. The occupation of Production Assembler had 3,001 job offers, with over five applicants recorded for each opening (15,279). The two next highest occupations were Sewing Machine Operator (559) and Toy Assembler (305). Neither of these

occupations had enough applicants to equal the openings (536 and 4, respectively). The two next highest applicants were Grinding and Polishing Laborer (1,978) and Electronics Assembler (615). These occupations had only 230 and 197 openings respectively.

Structural Work

The construction and manufacturing industries increased employment in 1988. This had a positive affect on the structural occupations and lowered the applicants/openings ratio from 4.53 in 1987 to 3.39 in 1988. Occupational openings increased a few hundred for a total of 6,801 at Job Service. Applicants dropped by 5,411 to a level of 23,089. The Construction Worker occupation had the greatest openings and applicants, 1,607 and 7,088 respectively. The next highest occupational opening was Carpenter (500) which had 1,591 applicants. The third highest level of openings was 433 for the occupation of Camper Assembler, which received only 122 applicants. The occupation of Building Maintenance Repairer and Operating Engineer totaled 1,530 and 1,020 applicants respectively for relatively few openings; 234 and 93 respectively.

Miscellaneous Occupations

Total openings were 8,209 with applicants equal to 27,833. These figures improved the applicants to openings ratio to 3.39 in 1988 from 4.53 in 1987. The three highest occupational openings were Material Handler (2,363), Stores Laborer (1,081) and Tractor-Trailer-Truck Driver (997). These occupations had large numbers of applicants associated with them. Material Handler received 9,441, Stores Laborer totaled 4,708, and the Tractor-Trailer-Truck Driver occupation had 3,038 applicants.

TABLE 6.3

OCCUPATIONS WITH THE GREATEST NUMBER OF APPLICANTS
JAN 1988 THROUGH DEC 1988
STATE OF IOWA

DOT CODE	TITLE	APPLICANTS	OPENINGS	APPLICANT/ OPENING RATIO
706.687-010	ASSEMBLER, PRODUCTION	15,279	3,001	5.1
929.687-030	MATERIAL HANDLER	9,441	2,363	4.0
209.562-010	CLERK, GENERAL	8,825	2,073	4.3
869.664-014	CONSTRUCTION WORKER	7,088	1,607	4.4
290.477-014	SALES CLERK	6,605	1,989	3.3
401.687-010	FARMWORKER, GRAIN	5,844	148	39.5
922,687-058	LABORER, STORES	4,708	1,081	4.4
201.362-030	SECRETARY	4,074	909	4.5
211.462-014	CASHIER-CHECKER	3,888	1,382	2.8
519.687-130	LABORER, SLAUGHTERING & MEAT PACKING	3,646	1,693	2.1
311.477-030	WAITER/WAITRESS	3,606	2,459	1.5
219.362-010	ADMINISTRATIVE CLERK	3,556	1,370	2.6
904.383-010	TRACTOR-TRAILER-TRUCK DRIVER	3,038	997	3.0
382.664-010	JANITOR	2,967	906	3.3
609.685-018	PRODUCTION-MACHINE TENDER	2,896	541	5.3
355.674-014	NURSE AIDE	2,797	1,097	2.5
905.663-014	TRUCK DRIVER, HEAVY	2,793	480	5.8
237.367-038	RECEPTIONIST	2,709	606	4.5
210.382-014	BOOKKEEPER	2,681	461	5.8
318.687-010	KITCHEN HELPER	2,332	1,438	1.6
620.261-010	AUTOMOBILE MECHANIC	2,116	541	3.9
189.167-018	MANAGEMENT TRAINEE	2,043	268	7.6
705.687-014	LABORER, GRINDING & POLISHING	1,978	230	8.6
313.361-014	COOK	1,904	1,260	1.5
381.687-014	CLEANER, COMMERCIAL OR INSTITUTIONAL	1,772	1,088	1.6
279.357-014	SALES REPRESENTATIVE, GENERAL MERCHANDISE	1,689	236	7.2
860.381-022	CARPENTER	1,591	500	3.2
216.482-010	ACCOUNTING CLERK	1,548	346	4.5
899.381-010	MAINTENANCE REPAIRER, BUILDING	1,530	324	4.7
211.362-010	CASHIER 1	1,511	538	2.8
609.684-014	LABORER, GENERAL	1,510	223	6.8
301.677-010	CHILD MONITOR	1,503	551	2.7
921.683-050	INDUSTRIAL-TRUCK OPERATOR	1,459	71	20.5
185.167-046	MANAGER, RETAIL STORE	1,407	163	8.6
616.360-018	MACHINE OPERATOR 1	1,348	460	2.9
211.462-010	CASHIER 2	1,311	480	2.7
372.667-034	GUARD, SECURITY	1,287	473	2.7
323.687-014	CLEANER, HOUSEKEEPING	1,193	786	1.5
509.686-010	LABORER, GENERAL	1,166	226	5.2
906.683-022	TRUCK DRIVER, LIGHT	1,129	389	2.9
203.362-010	CLERK-TYPIST	1,094	378	2.9
920.587-018	PACKAGER, HAND	1,028	338	3.0
859.683-010	OPERATING ENGINEER	1,020	93	11.0
819.384-010	WELDER, COMBINATION	1,008	201	5.0
525.684-010	BONER, MEAT	968	893	1.1

SOURCE: LABOR MARKET INFORMATION UNIT, DEPARTMENT OF EMPLOYMENT SERVICES

TABLE 6.4

OCCUPATIONS WITH THE GREATEST NUMBER OF OPENINGS
JAN 1988 THROUGH DEC 1988
STATE OF IOWA

DOT CODE	TITLE	APPLICANTS	OPENINGS	APPLICANT/ OPENING RATIO
706.687-010	ASSEMBLER, PRODUCTION	15,279	3,001	5.1
311.477-030	WAITER/WAITRESS	3,606	2,459	1.5
929.687-030	MATERIAL HANDLER	9,441	2,363	4.0
209.562-010	CLERK, GENERAL	8,825	2,073	4.3
290.477-014	SALES CLERK	6,605	1,989	3.3
529.687-130	LABORER, SLAUGHTERING & MEAT PACKING	3,646	1,693	2.1
869.664-014	CONSTRUCTION WORKER	7,088	1,607	4.4
318.687-010	KITCHEN HELPER	2,332	1,438	1.6
211.462-014	CASHIER-CHECKER	3,888	1,382	2.8
219.362-010	ADMINISTRATIVE CLERK	3,556	1,370	2.6
559.686-026	LABORER, GENERAL	170	1,263	0.1
313.361-014	COOK	1,904	1,260	1.5
355.674-014	NURSE AIDE	2,797	1,097	2.5
381.687-014	CLEANER, COMMERCIAL OR INSTITUTIONAL	1,772	1,088	1.6
922.687-058	LABORER, STORES	4,708	1,081	4.4
299.357-014	TELEPHONE SOLICITOR	766	1,009	0.8
904.383-010	TRACTOR-TRAILER-TRUCK DRIVER	3,038	997	3.0
201.362-030	SECRETARY	4,074	909	4.5
382.664-010	JANITOR	2,967	906	3.3
525.684-010	BONER, MEAT	968	893	1.1
323.687-014	CLEANER, HOUSEKEEPING	1,193	786	1.5
311.477-014	COUNTER ATTENDANT, LUNCHROOM OR COFFEE S	474	720	0.7
311.472-010	FAST-FOODS WORKER	491	718	0.7
208.685-018	INSERTING-MACHINE OPERATOR	100	614	0.2
237.367-038	RECEPTIONIST	2,709	606	4.5
787.682-046	SEWING-MACHINE OPERATOR	536	559	1.0
301.677-010	CHILD MONITOR	1,503	551	2.7
609.685-018	PRODUCTION-MACHINE TENDER	2,896	541	5.3
620.261-010	AUTOMOBILE MECHANIC	2,116	541	3.9
211.362-010	CASHIER 1	1,511	538	2.8
299.477-010	DELIVERER, MERCHANDISE	545	528	1.0
600.280-022	MACHINIST	905	527	1.7
860.381-022	CARPENTER	1,591	500	3.2
905.663-014	TRUCK DRIVER, HEAVY	2,793	480	5.8
211.462-010	CASHIER 2	1,311	480	2.7
372.667-034	GUARD, SECURITY	1,287	473	2.7
312.474-010	BARTENDER	949	469	2.0
210.382-014	BOOKKEEPER	2,681	461	5.8
616.360-018	MACHINE OPERATOR 1	1,348	460	2.9
299.367-014	STOCK CLERK, SELF-SERVICE STORE	710	438	1.6
806.684-018	ASSEMBLER, CAMPER	122	433	0.3
321.137-010	HOUSEKEEPER	746	400	1.9
906.683-022	TRUCK DRIVER, LIGHT	1,129	389	2.9
292.353-010	DRIVER, SALES ROUTE	943	386	2.4
313.361-022	COOK, SHORT ORDER 1	486	380	1.3

SOURCE: LABOR MARKET INFORMATION UNIT, DEPARTMENT OF EMPLOYMENT SERVICES

TABLE 6.5

CHARACTERISTICS OF JOB SERVICE APPLICANTS JANUARY 1, 1988 THROUGH DECEMBER 31, 1988 STATE OF IOWA

CHARACTERISTIC	NUMBER	PERCENT
TOTAL	**279,119**	**100.0%**
AGE GROUP		
15 AND UNDER	3,348	1.2
16 TO 19	24,876	8.9
20 TO 21	26,083	9.3
22 TO 39	160,111	57.4
40 TO 54	48,452	17.4
55 AND OVER	16,197	5.8
SEX		
MALE	156,208	56.0
FEMALE	122,911	44.0
EDUCATION		
7 OR LESS	3,413	1.3
8 TO 11	57,852	20.8
12	137,565	49.3
OVER 12	79,620	28.6
ETHNIC GROUP		
WHITE	260,660	93.4
BLACK	11,360	4.1
HISPANIC	3,478	1.2
AMERICAN INDIAN	1,157	0.4
ASIAN/PACIFIC ISLANDER	2,289	0.8
NOT AVAILABLE	175	0.1
CLAIMANT	14,701	5.3
VETERAN	33,509	12.0
HANDICAPPED	10,659	3.8
FOOD STAMP RECIPIENT	6,970	2.5

SOURCE: LABOR MARKET INFORMATION UNIT, IOWA DEPARTMENT OF EMPLOYMENT SERVICES.

B. Characteristics of Job Service Applicants

In 1988, 279,119 applicants registered with the Job Service Division of DES. This was a drop of 15,467 from the year before and demonstrates how Iowa's improved economy affected the labor supply at Job Service.

Age: Job Service registered 3,348 applicants younger than age sixteen in 1988. The majority of these registrants were interested in part-time after school jobs or full-time jobs during the summer. They were too young to be included in official labor force estimates because a worker must have achieved the age of sixteen in order to be included in the Resident Civilian Labor Force. The largest age group was age 22-39. That group numbered 160,111 (57.4%) of all Job Service applicants.

Gender: Fifty-six percent of applicants were male. This figure was the same in 1987.

Education: About 50 percent of the registrants possessed a high school diploma. In most cases, applicants who have completed high school are more readily accepted by employers over non high school graduates because employers feel that graduates are more capable of learning new skills in a changing work environment. Over 28 percent of the registrants had attended some college or vocational training after high school.

Ethnic Background: Minority groups comprised 6.5 percent of 1988 Job Service applicants. In Iowa, 63 percent of minority applicants were black. During the next twenty years, people of Asiatic groups are projected to represent a similar proportion of the population and work force as blacks.

Veteran Status: Military veterans representing all periods of service numbered 33,509 and comprised 12 percent of all 1988 registrations with Job Service. Although the number of these applicants dropped by almost 3,000 from 1987, this group continues to require many job-related services.

C. Characteristics of Unemployment Insurance Claimants

An average 17,864 Iowans per month collected Job Insurance benefits; however, this represents only a portion of the unemployed population. It does not include new entrants into the labor force or people returning to work. Also excluded from benefits are those who have exhausted their eligibility, people who quit work voluntarily or who were laid off before qualifying with enough time at work. There are also people who decline to file for benefits. Although these "non-covered" individuals are not Job Insurance recipients, they are included in total Iowa resident unemployment.

A monthly average of 5,449 recipients reported that their last work was in MANUFACTURING before they began receiving Unemployment Insurance benefits. The next greatest number of eligible jobless people was 3,731 recipients from the TRADE industry group, followed closely by 3,638 claimants who had previously worked in CONSTRUCTION.

Sixty-seven percent of the insured unemployed were male in 1988. The majority of construction and manufacturing workers are male, so employment fluctuations in these industries have a greater effect on the number of men receiving benefits.

In terms of age distribution, the greatest number of claimants were between the ages of 25 and 34 years. These workers are in the early stages of their careers and lack the seniority which would protect them from layoffs.

During 1988, 45 percent of Job Insurance recipients collected benefits for less than six months. The main reason for the short duration is that many manufacturing firms lay off workers for maintenance and inventory shutdown, holiday and vacation shutdown, or other short periods of time.

TABLE 6.6

JAN 1988 THROUGH DEC 1988 — JOB INSURANCE RECIPIENTS BY INDUSTRY OF LAST EMPLOYER — STATE OF IOWA

SIC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	AVG
TOTAL	30243	29744	26073	17537	14331	13031	13818	13209	11263	11491	13157	20476	17864
AG SERVICES	484	495	385	190	150	132	156	137	122	94	158	385	241
MINING	567	618	457	146	50	50	84	69	58	59	80	284	210
CONSTRUCTION	8941	9620	8271	3737	2059	1324	1067	888	712	763	1391	4887	3638
MANUFACTURING	8180	7268	6617	5337	4796	4490	4901	4859	4242	4225	4486	5981	5449
TRANS & PUB UTIL	1165	1163	1049	753	582	505	541	521	724	709	757	1062	794
TRADE	5503	5440	4759	3663	3260	3178	3527	3290	2597	2618	3060	3879	3731
FIN,INS,REAL EST	589	619	593	525	472	452	495	493	451	491	475	520	515
SERVICES	3448	3310	2917	2453	2337	2244	2343	2304	1801	1959	2106	2670	2491
GOVERNMENT	1099	984	851	600	531	582	618	557	475	476	542	669	665
INA	265	229	175	129	101	69	83	86	80	91	98	144	129

JAN 1988 THROUGH DEC 1988 — JOB INSURANCE RECIPIENTS BY AGE — STATE OF IOWA

AGE	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	AVG
TOTAL	30243	29744	26073	17537	14331	13031	13818	13209	11263	11491	13157	20476	17864
UNDER 22	1062	1086	871	608	495	442	507	459	394	441	591	1065	668
22-24	2386	2384	1971	1331	1067	1004	1061	1001	751	812	1040	1727	1378
25-34	10911	10959	9468	6040	4890	4427	4654	4331	3398	3367	4148	7151	6145
35-44	7759	7402	6642	4588	3798	3499	3687	3593	3280	3324	3659	5129	4697
45-54	4730	4561	4115	2832	2339	2124	2294	2233	2036	2102	2147	3190	2892
55-59	1740	1700	1492	1049	866	746	817	808	731	737	830	1188	1059
60-64	1302	1283	1181	822	655	597	608	589	502	541	566	792	787
65+	351	368	336	264	221	195	192	191	168	167	182	235	239

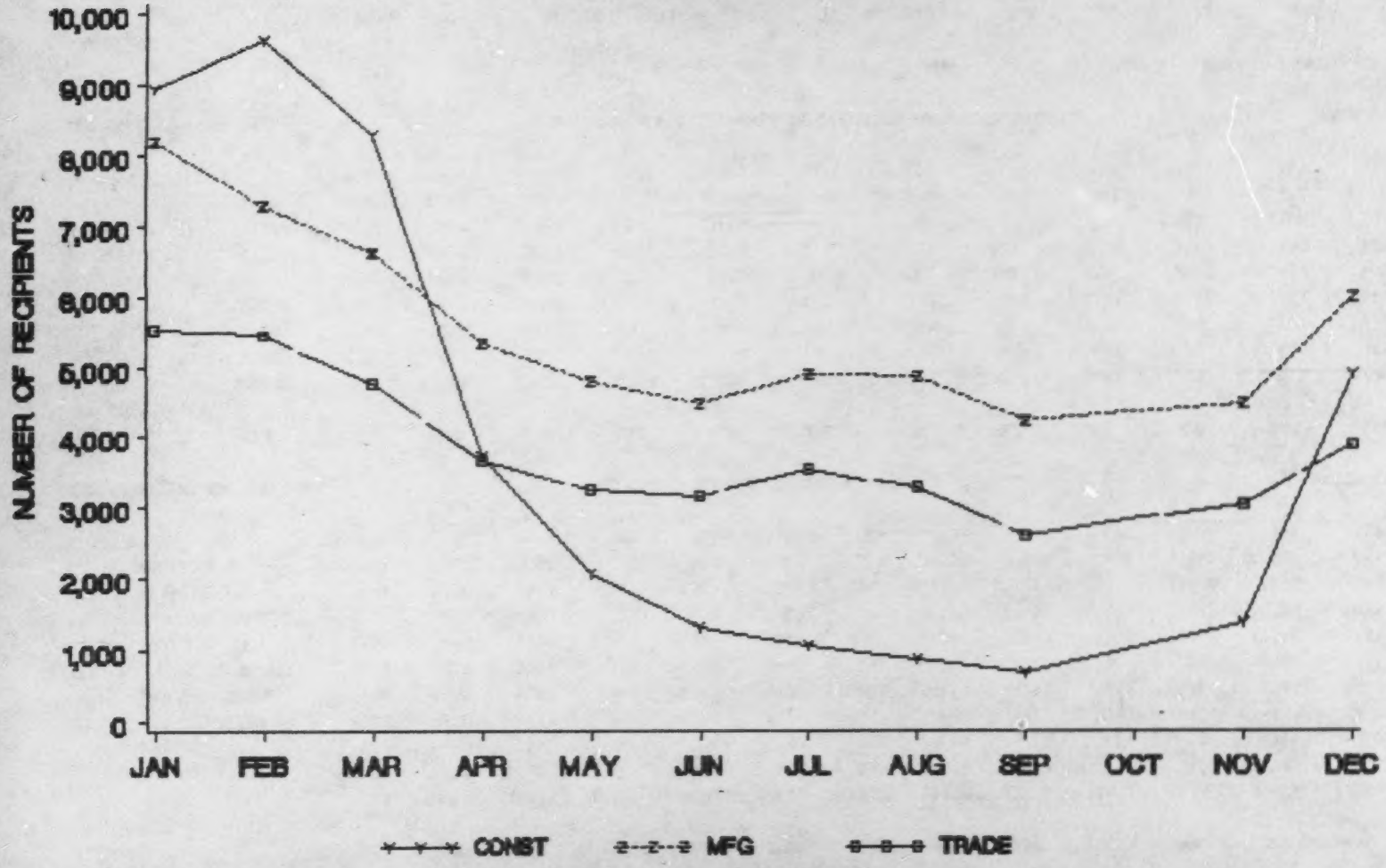
JAN 1988 THROUGH DEC 1988 — JOB INSURANCE RECIPIENTS BY DURATION OF UNEMPLOYMENT — STATE OF IOWA

DURATION	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	AVG
TOTAL	30243	29744	26073	17537	14331	13031	13818	13209	11263	11491	13157	20476	17864
UNDER 6 WEEKS	17088	15324	7499	6180	6182	6133	6578	5620	4544	4764	6119	11667	8142
6 TO 10 WEEKS	6571	6815	9510	3511	2647	2985	3388	3312	2593	2452	2656	3956	4200
11 TO 15 WEEKS	3070	3856	4826	3948	1999	1462	1722	2019	1816	1950	1897	1863	2536
16 TO 20 WEEKS	1625	1752	2074	1917	1813	1053	964	1091	1192	1050	1165	1471	1431
21 TO 25 WEEKS	895	1061	1081	997	854	794	605	644	650	744	691	787	817
26 TO 30 WEEKS	572	397	574	526	417	250	261	198	227	290	318	346	365
31 TO 35 WEEKS	218	336	211	270	215	185	129	167	121	146	212	221	203
OVER 36 WEEKS	204	201	298	189	208	165	165	151	121	92	94	161	171

SOURCE: LABOR MARKET INFORMATION UNIT, IOWA DEPARTMENT OF EMPLOYMENT SERVICES.

CHART 6.1

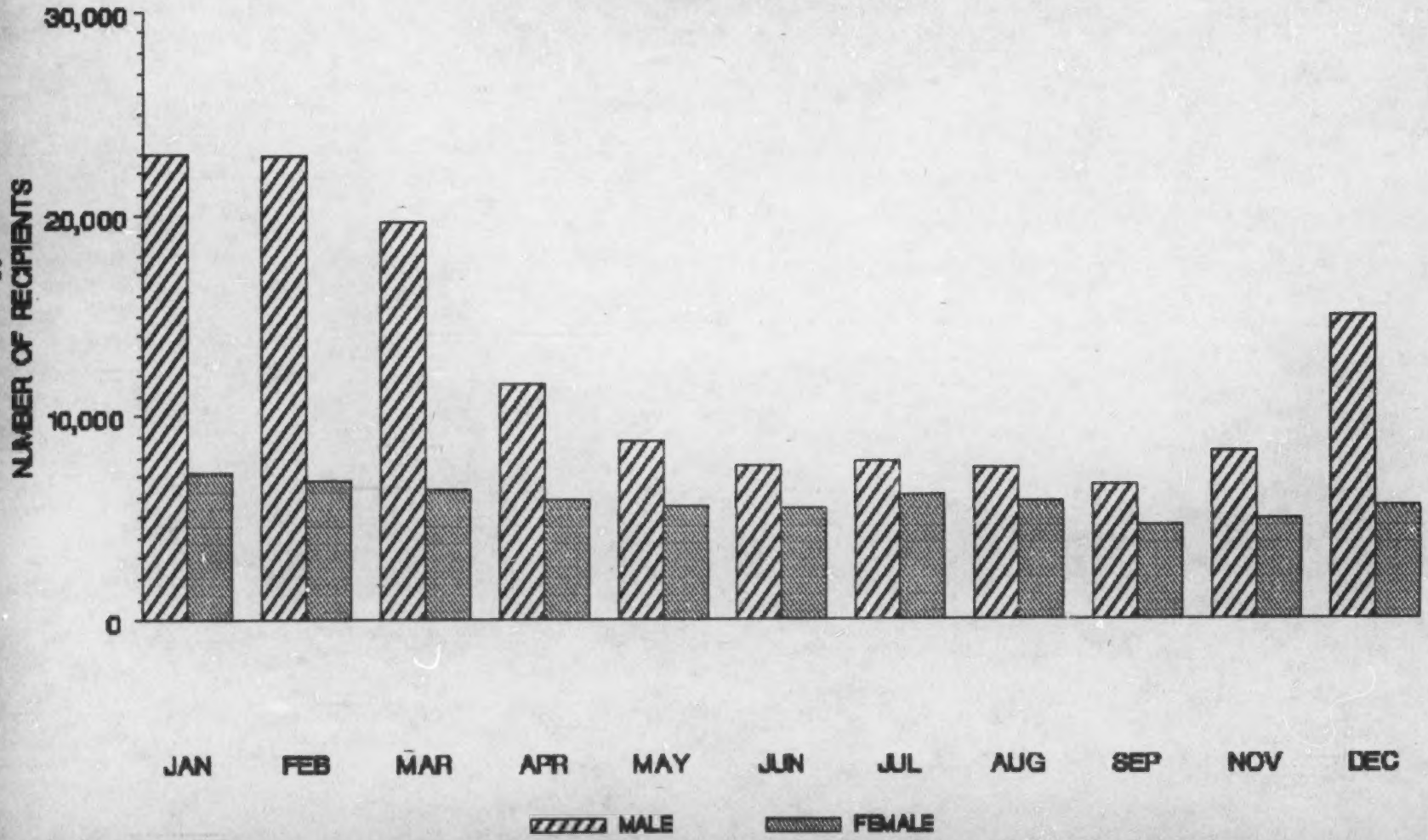
JOB INSURANCE RECIPIENTS WITH EXPERIENCE IN SELECTED INDUSTRIES
JAN 1988 THROUGH DEC 1988
STATE OF IOWA



SOURCE: LABOR MARKET INFORMATION UNIT. DEPARTMENT OF EMPLOYMENT SERVICES.

CHART 6.2

JOB INSURANCE RECIPIENTS BY SEX
JAN 1988 THROUGH DEC 1988
STATE OF IOWA



SOURCE: LABOR MARKET INFORMATION UNIT. DEPARTMENT OF EMPLOYMENT SERVICES.

SECTION 7

PERSONAL INCOME

INCOME

A. Plains Region

In 1987, Iowa total personal income was about $27.7 billion (place of work) according to the U.S. Department of Commerce. Of this, $2.89 billion is classified as farm income, and $24.81 billion is classified as nonfarm.

Nonfarm income consisted mainly of manufacturing, services, trade, government, and transportation, ranked in that order. Services ($5.536 billion) nearly caught up with manufacturing ($5.963 billion).

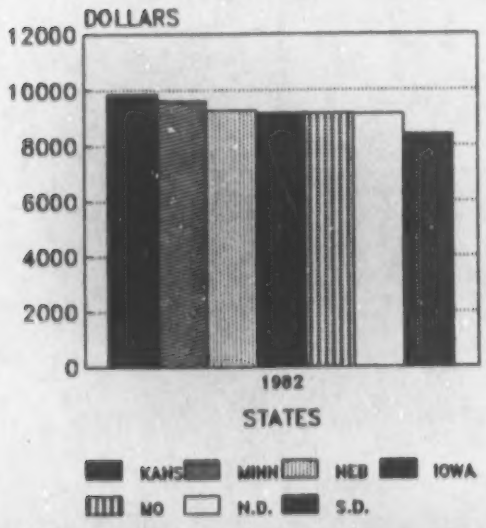
Iowa's level of per capita income lies midrange of the 7-state Plains Region. The Plains Region consists of Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota, and South Dakota. In that region, Kansas has nine counties which lie in the region's 20 highest counties for per capita income. The remaining highest counties are divided between Minnesota and Nebraska. (Local Area Personal Income 1981-1986, Dept. of Commerce)

Of the 20 lowest counties for per capita income, nearly all are in Missouri.

All states in the region had a positive rate of change in per capita income from 1981-1986. The state with the highest percent of change during the period is Minnesota (39%) followed by Missouri (38%). Iowa's average rate of increase in income was 21% for that period.

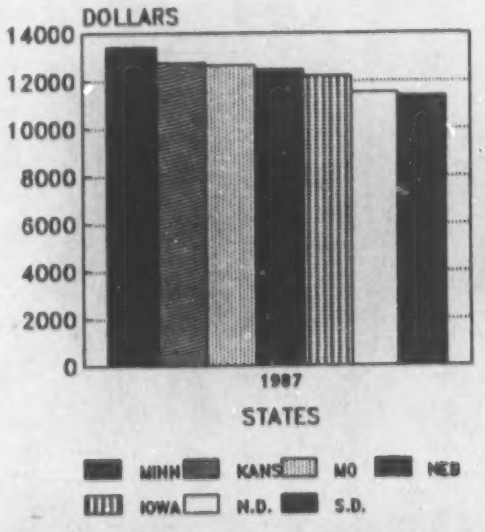
In 1982 Iowa's per capita income was $9,144; 4th in the 7-state Plains Region. Kansas was in first place with a per capita income of $11,809. In 1987 Iowa fell to 5th in this category while Minnesota climbed to first place with per capita income of $15,927.

PER CAPITA INCOME
PLAINS REGION RANKING



SOURCE: SURVEY OF CURRENT BUSINES

PER CAPITA INCOME
PLAINS REGION RANKING



SOURCE: SURVEY OF CURRENT BUSINESS

B. Relationship of Iowa Personal Income to Inflation

Iowa's Total Personal Income has grown steadily in Current Dollars (non-adjusted dollars recorded each year) in each year since 1979 with the exception of 1982. However, if the Current Dollars figures for each year are replaced by inflation-adjusted totals, real personal income actually decreased in 1980, 1982, and 1983. Some components of Total Personal Income experienced reversals in real income for additional years besides.

Farm Income failed to keep up with the increases in the Consumer Price Index in 1987 in addition to the three years listed above. The Wages and Salaries portion of Total Personal Income was the most vulnerable to inflation. Real income in this category dropped during five years since 1979 and has not matched the 1979 level of 18,076,478 since then. Total Proprietors' Income also fell in each of the three years as did Total Personal Income.

Many relatively high paying jobs in manufacturing have been replaced by lower paying jobs in the service and retail industries. Construction employment has steadily declined each year during the decade until some growth in that industry appeared in 1988. Meanwhile, the cost of basic necessities such as automobiles, homes, and loans has continued to climb at a higher rate than many wages, resulting in a net loss of consumer buying power for many Iowans.

TABLE 7.1

RELATIONSHIP OF IOWA PERSONAL INCOME TO INFLATION

YEAR	PERSONAL INCOME 1/	FARM INCOME	WAGES & SALARIES	PROPRIETORS' INCOME		
				TOTAL	FARM	NON-FARM
			CURRENT DOLLARS			
1980	27,811,290	1,147,527	15,124,203	3,447,280	863,997	2,583,283
1981	31,503,432	2,428,813	16,013,924	4,676,946	147,224	2,529,722
1982	31,475,899	1,224,347	15,953,938	3,423,007	931,964	2,491,043
1983	31,711,586	191,683	16,337,994	2,642,595	90,640	2,733,235
1984	34,686,703	1,586,742	17,301,299	4,340,873	310,451	3,030,422
1985	36,046,376	1,988,198	17,759,540	4,939,734	708,940	3,230,794
1986	38,052,926	2,847,573	18,268,181	6,027,319	566,147	3,461,172
1987	40,308,666	2,859,667	19,277,667	6,955,333	239,667	3,715,333
1988	41,844,000	NA	NA	NA	NA	NA
			DEFLATED DOLLARS 2/			
1980	32,451,914	1,339,005	17,647,845	4,022,497	8,165	3,014,333
1981	33,514,289	2,583,844	17,036,089	4,975,474	284,281	2,691,194
1982	31,475,899	1,224,347	15,953,938	3,423,007	931,964	2,491,034
1983	30,521,257	184,488	15,724,730	2,543,402	87,238	2,630,640
1984	32,206,781	1,473,298	16,064,344	4,030,523	216,760	2,813,762
1985	32,415,806	1,787,948	15,970,809	4,442,207	536,817	2,905,390
1986	33,350,505	2,495,682	16,010,676	5,282,488	249,033	3,033,455
1987	34,305,248	2,433,759	16,406,525	5,919,432	757,163	3,161,986
1988	34,382,909	NA	NA	NA	NA	NA

1/ In thousands
2/ Deflated using the GNP deflator

SOURCE: U.S. DEPARTMENT OF COMMERCE, BUREAU OF ECONOMIC ANALYSIS

SECTION 8

FACTORS WHICH AFFECT IOWA'S ECONOMY

FACTORS WHICH AFFECT IOWA'S ECONOMY

There are several external factors which affect Iowa's diversified economy. They are sometimes widely fluctuating factors, some of which are listed below.

Federal Farm Subsidies
Weather
Foreign Monetary Exchange Rates
Interest Rates
Sociological Trends
Federal and State Employment Programs

A. Farm Subsidies

The range of subsidies included price supports for grain and dairy products, compensation for idling land, tax relief on specific expense items, free delivery of mail, drought or flood disaster payments, and subsidized electrical power. These programs contribute millions of dollars each year toward Iowa's farm and agribusiness economy. According to 1987-1988 STATISTICAL PROFILE OF IOWA, Iowa farmers received over $691 million in government payments in 1987.

B. Weather

Weather is a major factor in Iowa's economy for construction as well as agribusiness. The drought of 1988 may have affected other states harder than Iowa, but also resulted in great loss of crop income for Iowa farmers. In addition, hundreds of ponds and wells have gone dry, greatly increasing expenses in some rural areas. The Missouri and Mississippi rivers were too low for normal shipping volumes, resulting in higher shipping costs as more agricultural products were shipped by rail and truck.

On the other hand, construction had a longer than normal work season and the dry weather helped keep work on or ahead of schedule. If the dry pattern is not broken, many industries such as farm machinery, rural banking, and agribusiness may suffer setbacks.

C. Foreign Monetary Exchange Rates

The monetary rate of exchange has a dramatic effect on Iowa's economy. As shown in Chart 8.1, there is an inverse relationship between nonfarm employment and the dollar exchange rate. During the past 20 years, nonfarm employment increased each time the U.S. dollar became lower priced in the international market. A significant amount of nonfarm employment is supported by agriculture. As the dollar falls, Iowa's exports of grain, processed food products, and farm and machinery increase. Tied with that are the fertilizer, chemical, and seed producers and their distributors which supply the farm sector.

D. Interest Rates

Interest rates on borrowed money have a direct effect on the labor market. As interest rates rise this causes many firms and individuals to postpone their machinery purchases, home construction or business expansion, and plans for increased employment.

The issue of interest rates is complex. Even though employers and employees may not be able to control interest rates, they are somewhat predictable because the federal government has some control over them and uses that control to manage the economy with regard to inflation and recession, balance of international trade, etc. Thus, employers and workers may observe a period of increasing inflation as a signal that the interest rates will be raised. This signal can help Iowans in their decision making for plans to add on to a home or expand a business.

E. Sociological Trends

One of the trends that affect Iowans is smaller family size. This has greatly affected the rural areas, where farms are being consolidated and operated by fewer, smaller families. This trend has an impact on rural towns in the form of reduced school enrollment, retail trade, and population.

Another trend is the current national tendency to reduce consumption of red meat and some other traditional food products. This phenomenon places stress on the livestock farmers and meatpacking industry at a time when they are facing modernization, ownership realignment and depressed exports. Many food processing firms have closed their doors. Some closed permanently, others have reopened with fewer workers and lower wages.

Women continue to enter the workforce in increasing numbers. Restaurants, housekeeping, child care, and many other service industries are rapidly growing in order to accommodate this transformation of labor.

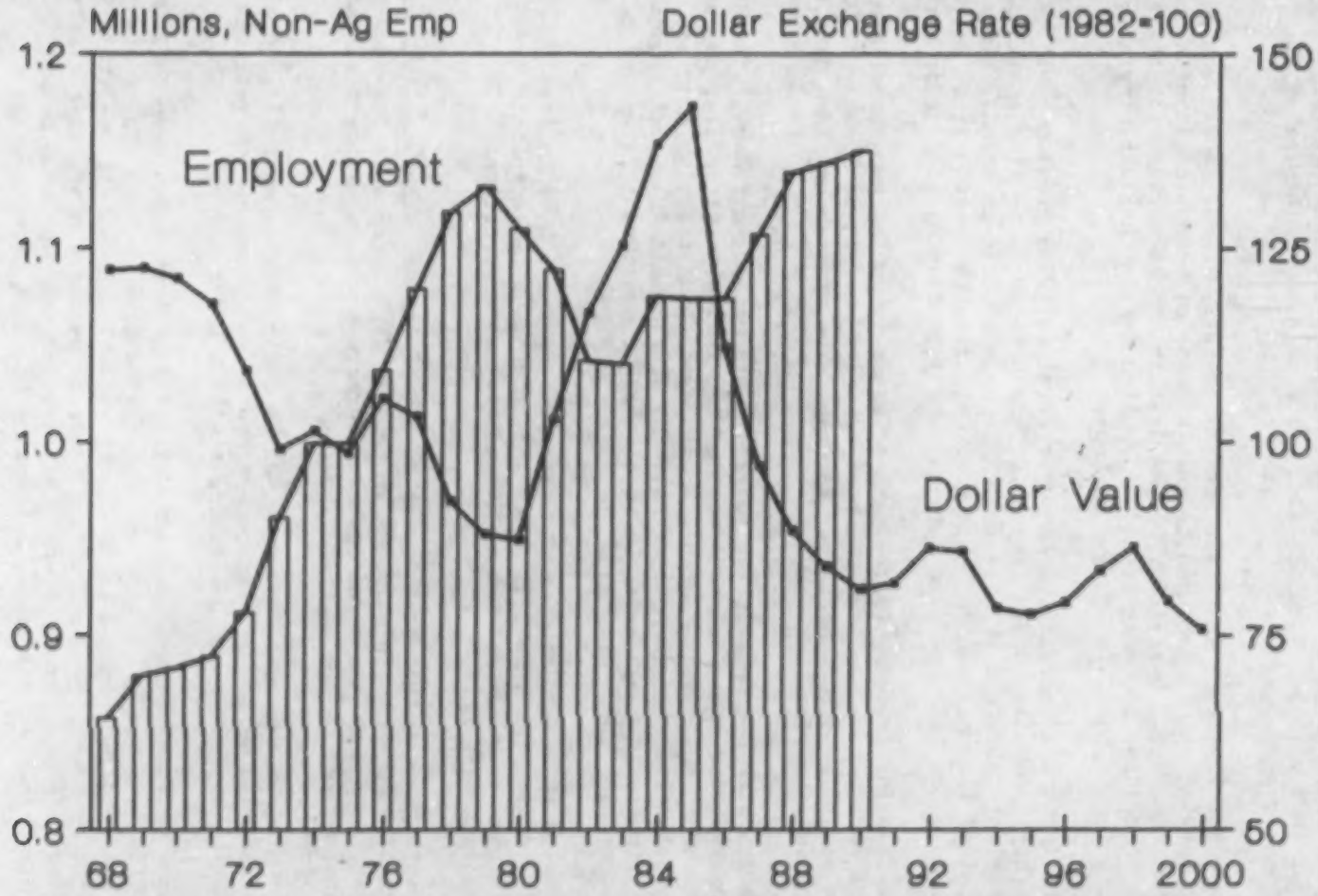
F. Federal and State Employment Programs

There are several government programs in place to provide aid to displaced workers and assist economically disadvantaged Iowans toward self-improvement and adequate living conditions. The following text illustrates six of these programs.

Iowa Department of Employment Services (DES) - The Division of Job Service placed 71,204 Iowans into positions listed by employers. In addition, jobless Iowans were paid $122.4 million in unemployment insurance benefits. These benefits came from a fund which is supplied by Iowa's private employers who must pay an employee payroll tax rate ranging from 0 to 8.4% of each of their employees' taxable wages,

CHART 8.1

Impact of the Dollar on Iowa Employment



COURTESY OF STATE ECONOMIST HARVEY SIEGELMAN, DEPARTMENT OF ECONOMIC DEVELOPMENT.

depending on the type of business involved. The fund presently contains about $400 million. The DES also has a role in administering the following programs:

Trade Act Program - The Trade Act is federally funded, administered by Job Service and is intended to help victims of permanent layoffs and plant closings. Over $800,000 was distributed to workers for training, job insurance, job search, and relocation during the last program year, according to the 1988 DES Annual Report.

Work Incentive/Coordinated Manpower Services (WIN) Program - WIN is another federally funded program. This program helps find positions for recipients of Aid to Families with Dependent Children (AFDC). Iowa received $2.4 million for this program during the last program year and helped place 2,860 AFDC recipients into jobs lasting 30 days or more.

Veterans Job Training (VJTA) - This federally funded program reimburses employers for one-half the cost of training unemployed Korean and Viet Nam veterans up to $10,000 per veteran. The program provided $180,000 to Iowans in 1987.

Job Training Partnership Act (JTPA) - This extensive federally funded program joins local business people, local elected officials, and state government in order to administer employment and training programs. The state is divided into Service Delivery Areas (SDA's) and JTPA funds are distributed to those areas based on their unemployment rates and other factors.

Training funds are provided to targeted groups such as welfare recipients, high school dropouts and others. Some recipients are referred by the Department of Human Services or vocational rehabilitation units.

Employers are compensated for up to 50% of the training wage rate of the individual firms. This incentive to hire JTPA workers is provided for about three months and enables many workers to become integrated into the workforce as permanent employees.

According to the Iowa Department of Economic Development, $37,316,450 was distributed to hundreds of employers, and provided job related benefits to 27,271 workers during the last program year.

Promoting Independence and Self-Sufficiency Through Employment (PROMISE) PROMISE is a new state program designed to give welfare recipients job skills which are needed in the labor market. One way it does this is by providing medical and child care funds to people who are participating in the programs listed above. This multi-agency approach helped 350 AFDC applicants find employment during the last program year.

G. Lottery Funds

Iowa's state lottery provides funds which are earmarked for economic development. In 1988, $40 million in lottery proceeds were returned to the state. These funds are being made available to employers through organizations such as:

Jobs Now
Department of Economic Development/Community Economic Betterment Account (CEBA)
Economic Research & Development Area Grants (ERDA)
Business Development Finance Corporation
Iowa Department of Natural Resources

Loans for starting or expanding businesses in Iowa is one destination for lottery funds, but other programs receive support from the lottery, too. They include such efforts as purchasing land for new parks and maintaining existing recreation areas. Lottery money also goes to education, agriculture, high-technology research, and to the arts.

APPENDIX A

POPULATION OF IOWA COUNTIES BY RACE AND SEX

1980 CENSUS

POPULATION OF IOWA COUNTIES BY RACE AND SEX

1980 CENSUS

AREA NAME	TOTAL POPULATION	MALE	FEMALE	WHITE	WHITE MALE	WHITE FEMALE	BLACK	BLACK MALE	BLACK FEMALE	OTHER RACES	OTHER MALE	OTHER FEMALE
STATE OF IOWA	2913808	1438830	1474978	2841326	1389065	1452261	42228	21268	20960	28398	18676	9722
ADAIR	9509	4843	4666	9458	4661	4797	33	24	9	0	0	0
ADAMS	5731	2918	2813	5726	2846	2880	0	0	0	0	0	0
ALLAMAKEE	15108	7619	7489	15070	7458	7612	0	0	0	0	0	0
APPANOOSE	15511	7540	7971	15282	7278	8004	123	33	90	86	63	23
AUDUBON	8559	4251	4308	8559	4251	4308	0	0	0	0	0	0
BENTON	23649	11743	11906	23517	11525	11992	4	4	0	175	104	71
BLACK HAWK	137961	67622	70339	127938	61985	65953	8733	4273	4460	1616	1063	553
BOONE	26184	12921	13263	25932	12462	13470	108	71	37	136	81	55
BREMER	24820	12329	12491	24685	12141	12544	20	20	0	86	48	38
BUCHANAN	22900	11484	11416	22705	11268	11437	54	35	19	137	95	42
BUENA VISTA	20774	10255	10519	20674	9992	10682	9	9	0	108	74	34
BUTLER	17668	8883	8785	17588	8691	8897	2	2	0	88	45	43
CALHOUN	13542	6633	6909	13491	6423	7068	17	17	0	0	0	0
CARROLL	22951	11351	11600	22881	11122	11759	0	0	0	59	36	23
CASS	16932	8380	8552	16850	8141	8709	2	2	0	76	48	28
CEDAR	18635	9313	9322	18466	9062	9404	2	2	0	186	124	62
CERRO GORDO	48458	23233	25225	47862	22556	25306	111	72	39	307	197	110
CHEROKEE	16238	8092	8146	16217	7929	8288	0	0	0	52	31	21
CHICKASAW	15437	7742	7695	15412	7628	7784	6	6	0	0	0	0
CLARKE	8612	4244	4368	8612	4244	4368	0	0	0	0	0	0
CLAY	19576	9544	10032	19365	9295	10070	0	0	0	284	179	105
CLAYTON	21098	10748	10350	20919	10455	10464	5	5	0	255	168	87
CLINTON	57122	28134	28988	56242	27422	28820	516	266	250	368	224	144
CRAWFORD	18935	9496	9439	18775	9245	9530	16	16	0	165	116	49
DALLAS	29513	14597	14916	29421	14275	15146	4	4	0	72	36	36
DAVIS	9104	4556	4548	9098	4556	4548	0	0	0	0	0	0
DECATUR	9794	4845	4949	9717	4669	5048	48	35	13	0	0	0
DELAWARE	18933	9452	9481	18847	9286	9561	6	6	0	74	46	28
DES MOINES	46203	22476	23727	44759	21459	23300	1011	432	579	434	279	155

POPULATION OF IOWA COUNTIES BY RACE AND SEX

1980 CENSUS

AREA NAME	TOTAL POPULATION	MALE	FEMALE	WHITE	WHITE MALE	WHITE FEMALE	BLACK	BLACK MALE	BLACK FEMALE	OTHER RACES	OTHER MALE	OTHER FEMALE
DICKINSON	15629	7709	7920	15561	7552	8009	13	13	0	42	16	26
DUBUQUE	93745	45961	47784	92914	44888	48026	313	186	127	542	361	181
EMMET	13336	6639	6697	13235	6460	6775	10	10	0	103	67	36
FAYETTE	25488	12821	12667	25251	12424	12827	43	31	12	142	98	44
FLOYD	19597	9688	9909	19508	9402	10106	2	2	0	95	51	44
FRANKLIN	13036	6487	6549	12904	6294	6610	24	24	0	89	67	22
FREMONT	9401	4655	4746	9392	4530	4861	9	9	0	0	0	0
GREENE	12119	6033	6086	12043	5821	6221	3	3	0	76	48	28
GRUNDY	14366	7206	7160	14366	7206	7160	0	0	0	0	0	0
GUTHRIE	11983	5935	6048	11957	5731	6226	3	3	0	33	21	12
HAMILTON	17862	8902	8960	17779	8720	9059	2	2	0	81	52	29
HANCOCK	13833	6953	6880	13770	6780	6990	0	0	0	56	34	22
HARDIN	21776	10932	10844	21613	10515	11098	104	90	14	47	28	19
HARRISON	16348	8122	8226	16315	7926	8389	22	22	0	0	0	0
HENRY	18890	9330	9560	18649	8994	9655	109	45	64	132	76	56
HOWARD	11114	5579	5535	11113	5578	5535	1	1	0	0	0	0
HUMBOLDT	12246	6138	6108	12185	5960	6225	17	17	0	0	0	0
IDA	8908	4529	4379	8899	4398	4501	2	2	0	0	0	0
IOWA	15429	7696	7733	15373	7495	7878	13	13	0	52	32	20
JACKSON	22503	11297	11206	22416	11104	11312	6	6	0	98	52	46
JASPER	36425	18115	18310	36238	17705	18533	61	46	15	121	75	46
JEFFERSON	16316	8245	8071	16016	7907	8109	102	59	43	237	164	73
JOHNSON	81717	40493	41224	78514	38333	40181	1272	720	552	2286	1584	702
JONES	20401	10643	9758	20233	10330	9903	103	98	5	37	32	5
KEOKUK	12921	6460	6461	12845	6281	6564	5	5	0	61	42	19
KOSSUTH	21891	11019	10872	21776	10868	10908	0	0	0	125	69	56
LEE	43106	21556	21550	41234	20183	21051	1131	693	438	699	449	250
LINN	169775	82939	86836	165489	80087	85402	2962	1434	1528	1498	982	516
LOUISA	12055	6029	6026	11905	5850	6055	4	4	0	40	31	9
LUCAS	10313	5013	5300	10237	4884	5353	6	6	0	75	44	31

POPULATION OF IOWA COUNTIES BY RACE AND SEX

1980 CENSUS

AREA NAME	TOTAL POPULATION	MALE	FEMALE	WHITE	WHITE MALE	WHITE FEMALE	BLACK	BLACK MALE	BLACK FEMALE	OTHER RACES	OTHER MALE	OTHER FEMALE
LYON	12896	6458	6438	12872	6381	6491	0	0	0	0	0	0
MADISON	12597	6418	6179	12501	6168	6333	0	0	0	68	23	45
MAHASKA	22867	11406	11461	22514	10881	11633	100	85	15	306	205	101
MARION	29669	14938	14731	29337	14476	14861	125	72	53	200	132	68
MARSHALL	41652	20642	21010	40899	19942	20957	256	127	129	378	222	156
MILLS	13406	6699	6707	13350	6612	6738	20	20	0	0	0	0
MITCHELL	12329	6240	6089	12329	6240	6089	0	0	0	0	0	0
MONONA	11692	5836	5856	11692	5836	5856	0	0	0	0	0	0
MONROE	9209	4541	4668	9203	4541	4662	6	6	0	0	0	0
MONTGOMERY	13413	6536	6877	13407	6530	6877	6	6	0	0	0	0
MUSCATINE	40436	20050	20386	38744	18931	19813	196	121	75	349	230	119
O'BRIEN	16972	8429	8543	16945	8213	8732	0	0	0	68	42	26
OSCEOLA	8371	4184	4187	8303	4095	4208	0	0	0	39	34	5
PAGE	19063	9392	9671	18926	9061	9865	13	13	0	118	76	42
PALO ALTO	12721	6432	6289	12642	6274	6368	16	16	0	98	57	41
PLYMOUTH	24743	12535	12208	24522	12139	12383	57	43	14	217	124	93
POCAHONTAS	11369	5715	5654	11361	5566	5795	3	3	0	0	0	0
POLK	303170	145951	157219	283241	134682	148559	13884	6679	7205	6180	4055	2125
POTTAWATTAMIE	86561	42075	44486	85228	40987	44241	360	190	170	764	506	258
POWESHIEK	19306	9645	9661	19115	9265	9850	63	22	41	131	96	35
RINGGOLD	6112	2948	3164	6112	2945	3164	3	3	0	0	0	0
SAC	14118	7004	7114	14115	7004	7111	3	3	0	0	0	0
SCOTT	160022	79358	80664	150763	74075	76688	6453	3125	3328	1805	1202	603
SHELBY	15043	7650	7393	15043	7650	7393	0	0	0	0	0	0
SIOUX	30813	15126	15687	30602	14828	15774	110	64	46	91	59	32
STORY	72326	37500	34826	69695	35546	34149	849	522	327	2000	1412	588
TAMA	19533	9693	9840	18675	9068	9607	16	16	0	1254	825	429
TAYLOR	8353	4144	4209	8350	4141	4208	2	2	0	0	0	0
UNION	13858	6698	7160	13732	6503	7229	19	19	0	129	81	48
VAN BUREN	8626	4356	4270	8626	4356	4270	0	0	0	0	0	0

POPULATION OF IOWA COUNTIES BY RACE AND SEX

1980 CENSUS

AREA NAME	TOTAL POPULATION	MALE	FEMALE	WHITE	WHITE MALE	WHITE FEMALE	BLACK	BLACK MALE	BLACK FEMALE	OTHER RACES	OTHER MALE	OTHER FEMALE
WAPELLO	40241	19526	20715	39867	19092	20775	244	92	152	102	64	38
WARREN	34878	17294	17584	34549	16809	17740	102	61	41	183	136	47
WASHINGTON	20141	9926	10215	20030	9683	10347	33	21	12	69	45	24
WAYNE	8199	4100	4099	8199	4100	4099	0	0	0	0	0	0
WEBSTER	45953	22397	23556	44656	21224	23432	954	490	464	201	137	64
WINNEBAGO	13010	6476	6534	12897	6240	6657	40	40	0	81	48	33
WINNESHIEK	21876	10930	10946	21693	10672	11021	123	72	51	68	47	21
WOODBURY	100884	48659	52225	97991	46518	51473	1019	467	552	2280	1442	838
WORTH	9075	4550	4525	9062	4537	4525	13	13	0	0	0	0
WRIGHT	16319	8005	8314	16146	7809	8337	0	0	0	207	123	84

APPENDIX B

JOB OPENINGS AND APPLICANTS BY OCCUPATION

JANUARY 1, 1988 - DECEMBER 31, 1988

STATE OF IOWA

JOB OPENINGS AND APPLICANTS BY OCCUPATION JAN 1, 1988 - DEC 31, 1988
STATE OF IOWA

DOT CODE	TITLE	AVAILABLE APPLICANTS 1/	AVAILABLE OPENINGS	APPLICANT/ OPENING RATIO 2/
PROFESSIONAL,TECHNICAL,MANAGERIAL				
164.167-010	ACCOUNT EXECUTIVE	27	11	2.45
160.167-010	ACCOUNTANT	805	94	8.56
160.167-014	ACCOUNTANT, BUDGET	25	4	6.25
160.167-018	ACCOUNTANT, COST	30	16	1.88
169.167-010	ADMINISTRATIVE ASSISTANT	795	83	9.58
169.167-014	ADMINISTRATIVE SECRETARY	51	13	3.92
159.147-010	ANNOUNCER	161	25	6.44
001.061-010	ARCHITECT	31	5	6.20
041.061-030	BIOLOGIST	33	1	33.00
162.157-018	BUYER	62	2	31.00
162.167-010	BUYER, GRAIN	30	2	15.00
195.367-010	CASE AIDE	92	42	2.19
195.107-010	CASEWORKER	515	103	5.00
022.061-010	CHEMIST	41	10	4.10
199.364-010	CITY PLANNING AIDE	27	8	3.38
005.061-014	CIVIL ENGINEER	33	14	2.36
189.167-010	CONSULTANT	123	10	12.30
186.117-014	CONTROLLER	31	7	4.43
131.067-014	COPY WRITER	48	6	8.00
045.107-010	COUNSELOR	423	71	5.96
096.127-010	COUNTY-AGRICULTURAL AGENT	27	1	27.00
079.371-010	DENTAL ASSISTANT	215	68	3.16
159.147-014	DISK JOCKEY	36	15	2.40
001.261-010	DRAFTER, ARCHITECTURAL	98	13	7.54
005.281-010	DRAFTER, CIVIL	25	5	5.00
007.281-010	DRAFTER, MECHANICAL	252	101	2.50
132.267-014	EDITORIAL ASSISTANT	40	1	40.00
003.061-010	ELECTRICAL ENGINEER	56	16	3.50
003.161-014	ELECTRONICS TECHNICIAN	499	21	23.76
195.267-010	ELIGIBILITY WORKER	30	10	3.00
079.374-010	EMERGENCY MEDICAL TECHNICIAN	80	24	3.33

JOB OPENINGS AND APPLICANTS BY OCCUPATION JAN 1, 1988 - DEC 31, 1988
STATE OF IOWA

DOT CODE	TITLE	AVAILABLE APPLICANTS 1/	AVAILABLE OPENINGS	APPLICANT/ OPENING RATIO 2/
166.267-010	EMPLOYMENT INTERVIEWER	114	53	2.15
020.067-010	ENGINEERING ANALYST	43	7	6.14
007.161-018	ENGINEERING ASSISTANT, MECHANICAL EQUIPM	47	26	1.81
160.267-018	ESTIMATOR	34	10	3.40
090.227-010	FACULTY MEMBER, COLLEGE OR UNIVERSITY	68	32	2.13
020.167-014	FINANCIAL ANALYST	74	3	24.67
142.081-010	FLORAL DESIGNER	111	47	2.36
183.167-018	GENERAL SUPERVISOR	155	32	4.84
141.061-018	GRAPHIC DESIGNER	174	13	13.38
195.164-010	GROUP WORKER	44	25	1.76
141.061-022	ILLUSTRATOR	167	14	11.93
012.167-030	INDUSTRIAL ENGINEER	55	21	2.62
099.224-010	INSTRUCTOR, PHYSICAL EDUCATION	44	6	7.33
097.227-014	INSTRUCTOR, VOCATIONAL TRAINING	23	26	0.88
142.051-014	INTERIOR DESIGNER	57	14	4.07
029.261-010	LABORATORY TESTER	159	43	3.70
110.107-010	LAWYER	52	11	4.73
119.267-022	LEGAL INVESTIGATOR	51	0	-
100.127-014	LIBRARIAN	42	5	8.40
186.267-018	LOAN OFFICER	182	13	14.00
189.167-018	MANAGEMENT TRAINEE	2,043	268	7.62
164.117-010	MANAGER, ADVERTISING	30	4	7.50
186.167-018	MANAGER, APARTMENT HOUSE	78	24	3.25
185.167-014	MANAGER, AUTOMOBILE SERVICE STATION	98	11	8.91
184.117-034	MANAGER, AUTOMOTIVE SERVICES	30	3	10.00
166.167-018	MANAGER, BENEFITS	60	2	30.00
183.117-010	MANAGER, BRANCH	141	6	23.50
189.167-022	MANAGER, DEPARTMENT	198	25	7.92
185.137-010	MANAGER, FAST FOOD SERVICES	252	63	4.00
186.117-038	MANAGER, FINANCIAL INSTITUTION	84	4	21.00
187.167-106	MANAGER, FOOD SERVICE	606	69	8.78
187.117-038	MANAGER, HOTEL OR MOTEL	54	3	18.00
189.117-022	MANAGER, INDUSTRIAL ORGANIZATION	37	8	4.63

JOB OPENINGS AND APPLICANTS BY OCCUPATION JAN 1, 1988 - DEC 31, 1988
STATE OF IOWA

DOT CODE	TITLE	AVAILABLE APPLICANTS 1/	AVAILABLE OPENINGS	APPLICANT/ OPENING RATIO 2/
187.167-126	MANAGER, LIQUOR ESTABLISHMENT	101	16	6.31
185.167-034	MANAGER, MERCHANDISE	29	2	14.50
169.167-034	MANAGER, OFFICE	758	80	9.48
185.167-038	MANAGER, PARTS	96	3	32.00
166.117-018	MANAGER, PERSONNEL	177	27	6.56
186.167-046	MANAGER, PROPERTY	29	2	14.50
185.167-046	MANAGER, RETAIL STORE	1,407	163	8.63
163.167-018	MANAGER, SALES	465	25	18.60
184.167-110	MANAGER, TRUCK TERMINAL	27	1	27.00
184.167-114	MANAGER, WAREHOUSE	50	4	12.50
012.167-042	MANUFACTURING ENGINEER	28	5	5.60
050.067-014	MARKET-RESEARCH ANALYST 1	55	3	18.33
007.061-014	MECHANICAL ENGINEER	80	28	2.86
007.161-026	MECHANICAL-ENGINEERING TECHNICIAN	59	14	4.21
079.367-010	MEDICAL ASSISTANT	205	33	6.21
078.381-014	MEDICAL-LABORATORY TECHNICIAN	41	14	2.93
075.374-010	NURSE, GENERAL DUTY	336	171	1.96
079.374-014	NURSE, LICENSED PRACTICAL	404	165	2.45
075.374-014	NURSE, OFFICE	33	11	3.00
119.267-026	PARALEGAL ASSISTANT	92	2	46.00
169.167-042	PARK RANGER	26	0	-
074.387-010	PHARMACY HELPER	44	26	1.69
079.364-022	PHLEBOTOMIST	28	18	1.56
143.062-030	PHOTOGRAPHER, STILL	67	35	1.91
195.167-034	PROBATION OFFICER	49	7	7.00
159.117-010	PRODUCER	33	6	5.50
012.167-050	PRODUCTION PLANNER	33	7	4.71
183.117-014	PRODUCTION SUPERINTENDENT	279	15	18.60
195.227-010	PROGRAM AIDE, GROUP WORK	147	56	2.63
187.117-046	PROGRAM DIRECTOR, GROUP WORK	41	16	2.56
020.162-014	PROGRAMER, BUSINESS	374	47	7.96
020.187-010	PROGRAMER, INFORMATION SYSTEM	30	5	6.00
189.117-030	PROJECT DIRECTOR	28	3	9.33

JOB OPENINGS AND APPLICANTS BY OCCUPATION JAN 1, 1988 - DEC 31, 1988
STATE OF IOWA

DOT CODE	TITLE	AVAILABLE APPLICANTS 1/	AVAILABLE OPENINGS	APPLICANT/ OPENING RATIO 2/
165.067-010	PUBLIC-RELATIONS REPRESENTATIVE	317	18	17.61
162.157-038	PURCHASING AGENT	219	22	9.95
012.261-014	QUALITY-CONTROL TECHNICIAN	37	7	5.29
195.227-014	RECREATION LEADER	65	19	3.42
187.137-010	RECREATION SUPERVISOR	97	11	8.82
131.267-018	REPORTER	33	9	3.67
045.107-038	RESIDENCE COUNSELOR	35	7	5.00
187.167-186	RESIDENCE SUPERVISOR	58	27	2.15
189.167-034	SECURITY OFFICER	63	4	15.75
185.167-058	SERVICE MANAGER	84	9	9.33
195.107-022	SOCIAL GROUP WORKER	109	34	3.21
195.107-030	SOCIAL WORKER, MEDICAL	71	17	4.18
195.107-034	SOCIAL WORKER, PSYCHIATRIC	153	22	6.95
040.061-054	SOIL CONSERVATIONIST	34	25	1.36
182.167-026	SUPERINTENDENT, CONSTRUCTION	85	22	3.86
012.167-066	SYSTEMS ANALYST, ELECTRONIC DATA PROCESS	89	20	4.45
099.327-010	TEACHER AIDE 1	119	24	4.96
092.227-010	TEACHER, ELEMENTARY SCHOOL	325	16	20.31
094.227-022	TEACHER, MENTALLY RETARDED	25	8	3.13
092.227-018	TEACHER, PRESCHOOL	100	41	2.44
091.227-010	TEACHER, SECONDARY SCHOOL	367	11	33.36
029.261-022	TESTER	30	6	5.00
007.167-018	TOOL PROGRAMER, NUMERICAL CONTROL	66	6	11.00
166.227-010	TRAINING REPRESENTATIVE	31	11	2.82
169.167-058	UNDERWRITER	66	14	4.71
045.107-042	VOCATIONAL-REHABILITATION COUNSELOR	32	8	4.00
131.067-046	WRITER, PROSE, FICTION AND NONFICTION	47	3	15.67
131.267-026	WRITER, TECHNICAL PUBLICATIONS	72	7	10.29
	TOTAL FOR PROFESSIONAL,TECHNICAL,MANAGERIAL	22,318	4,134	5.40

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DOT CODE	TITLE	AVAILABLE APPLICANTS 1/	AVAILABLE OPENINGS	APPLICANT/ OPENING RATIO 2/
CLERICAL				
216.482-010	ACCOUNTING CLERK	1,548	346	4.47
216.382-010	ACCOUNTING CLERK, DATA PROCESSING	28	13	2.15
209.587-010	ADDRESSER	47	137	0.34
219.362-010	ADMINISTRATIVE CLERK	3,556	1,370	2.60
210.382-010	AUDIT CLERK	90	26	3.46
210.382-014	BOOKKEEPER	2,681	461	5.82
211.362-010	CASHIER 1	1,511	538	2.81
211.462-010	CASHIER 2	1,311	480	2.73
211.462-014	CASHIER-CHECKER	3,888	1,382	2.81
211.462-018	CASHIER-WRAPPER	44	10	4.40
209.687-010	CHECKER 2	37	6	6.17
207.137-010	CHIEF CLERK, PRINT SHOP	121	0	-
209.362-010	CIRCULATION CLERK	62	2	31.00
241.217-010	CLAIM ADJUSTER	82	20	4.10
241.267-018	CLAIM EXAMINER	30	29	1.03
241.362-010	CLAIMS CLERK 1	25	8	3.13
203.362-010	CLERK-TYPIST	1,094	378	2.89
209.562-010	CLERK, GENERAL	8,825	2,073	4.26
241.357-010	COLLECTION CLERK	37	68	0.54
241.367-010	COLLECTOR	25	39	0.64
213.362-010	COMPUTER OPERATOR	750	123	6.10
219.462-010	COUPON CLERK	44	165	0.27
205.367-022	CREDIT CLERK	39	20	1.95
241.367-014	CUSTOMER-COMPLAINT CLERK	61	42	1.45
239.367-010	CUSTOMER-SERVICE REPRESENTATIVE	48	39	1.23
203.582-022	DATA TYPIST	142	35	4.06
203.582-026	DATA-CODER OPERATOR	95	12	7.92
230.667-010	DELIVERER, OUTSIDE	62	51	1.22
249.167-014	DISPATCHER, MOTOR VEHICLE	67	16	4.19
205.362-014	EMPLOYMENT CLERK	88	29	3.03
219.362-030	EXTENSION CLERK	31	9	3.44

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238.362-014	RESERVATION CLERK	30	10	3.00
201.362-030	SECRETARY	4,074	909	4.48
222.387-050	SHIPPING AND RECEIVING CLERK	817	174	4.70
222.137-030	SHIPPING-AND-RECEIVING SUPERVISOR	138	10	13.80
216.382-062	STATISTICAL CLERK	28	18	1.56
222.387-058	STOCK CLERK	942	263	3.58
222.137-034	STOCK SUPERVISOR	27	6	4.50
219.367-034	STOCK-CONTROL CLERK	54	7	7.71
213.132-010	SUPERVISOR, COMPUTER OPERATIONS	28	7	4.00
205.367-054	SURVEY WORKER	104	131	0.79
249.367-074	TEACHER AIDE 2	206	47	4.38
235.662-022	TELEPHONE OPERATOR	174	86	2.02
230.667-014	TELEPHONE-DIRECTORY DELIVERER	42	2	21.00
211.362-018	TELLER	561	288	1.95
203.582-054	TERMINAL OPERATOR	591	262	2.26
203.362-018	TERMINAL-SYSTEM OPERATOR	65	25	2.60
203.582-058	TRANSCRIBING-MACHINE OPERATOR	24	46	0.52
238.367-030	TRAVEL CLERK	743	28	26.54
209.562-014	TRUST-MAIL CLERK	62	3	20.67
203.582-066	TYPIST	78	65	1.20
245.362-014	WARD CLERK	42	28	1.50
203.362-022	WORD-PROCESSING-MACHINE OPERATOR	164	89	1.84
	TOTAL FOR CLERICAL	43,924	14,289	3.07
	SALES			
292.483-010	COIN COLLECTOR	15	25	0.60
290.477-010	COUPON-REDEMPTION CLERK	205	31	6.61
299.367-010	CUSTOMER-SERVICE CLERK	161	49	3.29
299.477-010	DELIVERER, MERCHANDISE	545	528	1.03
297.354-010	DEMONSTRATOR	30	68	0.44

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298.081-010	DISPLAYER, MERCHANDISE	14	30	0.47
292.353-010	DRIVER, SALES ROUTE	943	386	2.44
299.137-010	MANAGER, DEPARTMENT	122	33	3.70
279.157-010	MANUFACTURERS' REPRESENTATIVE	27	8	3.38
292.457-010	NEWSPAPER CARRIER	10	38	0.26
292.363-010	NEWSPAPER-DELIVERY DRIVER	5	39	0.13
299.474-010	OPTICIAN, DISPENSING 2	12	39	0.31
296.357-010	PERSONAL SHOPPER	45	0	-
250.257-010	SALES AGENT, INSURANCE	200	189	1.06
250.357-018	SALES AGENT, REAL ESTATE	33	8	4.13
290.477-014	SALES CLERK	6,605	1,989	3.32
290.477-018	SALES CLERK, FOOD	508	263	1.93
279.357-010	SALES EXHIBITOR	101	11	9.18
254.357-014	SALES REPRESENTATIVE, ADVERTISING	158	72	2.19
272.357-010	SALES REPRESENTATIVE, ANIMAL-FEED PRODUC	96	19	5.05
274.357-018	SALES REPRESENTATIVE, BUILDING EQUIPMENT	66	26	2.54
275.257-010	SALES REPRESENTATIVE, COMPUTERS AND EDP	25	11	2.27
272.357-014	SALES REPRESENTATIVE, FARM AND GARDEN EQ	110	17	6.47
260.357-014	SALES REPRESENTATIVE, FOOD PRODUCTS	130	39	3.33
279.357-014	SALES REPRESENTATIVE, GENERAL MERCHANDIS	1,689	236	7.16
274.357-038	SALES REPRESENTATIVE, INDUSTRIAL MACHINE	31	5	6.20
273.357-022	SALES REPRESENTATIVE, MOTOR VEHICLES AND	42	18	2.33
259.357-018	SALES REPRESENTATIVE, RADIO AND TELEVISI	19	26	0.73
269.357-018	SALES-PROMOTION REPRESENTATIVE	77	7	11.00
273.357-030	SALESPERSON, AUTOMOBILE ACCESSORIES	28	20	1.40
273.353-010	SALESPERSON, AUTOMOBILES	149	20	7.45
270.357-030	SALESPERSON, FURNITURE	47	42	1.12
279.357-050	SALESPERSON, GENERAL HARDWARE	110	72	1.53
270.357-034	SALESPERSON, HOUSEHOLD APPLIANCES	12	25	0.48
279.357-058	SALESPERSON, JEWELRY	39	50	0.78
261.357-050	SALESPERSON, MEN'S AND BOYS' CLOTHING	27	13	2.08
279.357-062	SALESPERSON, PARTS	162	75	2.16
261.357-062	SALESPERSON, SHOES	26	86	0.30

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261.357-066	SALESPERSON, WOMEN'S APPAREL AND ACCESSO	115	83	1.39
299.367-014	STOCK CLERK, SELF-SERVICE STORE	710	438	1.62
299.357-014	TELEPHONE SOLICITOR	766	1,009	0.76
252.157-010	TRAVEL AGENT	100	5	20.00
	TOTAL FOR SALES	**15,052**	**6,651**	**2.26**
	SERVICES			
359.677-010	ATTENDANT, CHILDREN'S INSTITUTION	294	97	3.03
313.381-010	BAKER	47	42	1.12
313.381-014	BAKER, PIZZA	72	190	0.38
313.361-010	BAKER, SECOND	168	50	3.36
312.477-010	BAR ATTENDANT	23	25	0.92
312.474-010	BARTENDER	949	469	2.02
324.677-010	BELLHOP	8	37	0.22
311.677-010	CAFETERIA ATTENDANT	60	118	0.51
311.674-010	CANTEEN OPERATOR	42	9	4.67
311.477-010	CAR HOP	195	72	2.71
301.687-010	CARETAKER	431	62	6.95
381.687-010	CENTRAL-SUPPLY WORKER	92	57	1.61
359.673-010	CHAUFFEUR	104	33	3.15
313.131-014	CHEF	61	20	3.05
301.677-010	CHILD MONITOR	1,503	551	2.73
355.674-010	CHILD-CARE ATTENDANT, SCHOOL	271	70	3.87
381.687-014	CLEANER, COMMERCIAL OR INSTITUTIONAL	1,772	1,088	1.63
323.687-010	CLEANER, HOSPITAL	305	160	1.91
323.687-014	CLEANER, HOUSEKEEPING	1,193	786	1.52
381.687-018	CLEANER, INDUSTRIAL	306	218	1.40
381.687-022	CLEANER, LABORATORY EQUIPMENT	29	22	1.32
389.687-014	CLEANER, WINDOW	30	11	2.73
378.684-014	COMBAT RIFLE CREWMEMBER	1	142	0.01

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361.687-018	LAUNDRY LABORER	86	95	0.91
369.684-014	LAUNDRY OPERATOR	14	36	0.39
361.684-014	LAUNDRY WORKER 1	170	119	1.43
361.685-018	LAUNDRY WORKER 2	55	45	1.22
320.137-014	MANAGER, LODGING FACILITIES	67	8	8.38
316.684-018	MEAT CUTTER	325	64	5.08
355.374-014	MEDICATION AIDE	32	47	0.68
355.377-018	MENTAL-RETARDATION AIDE	29	28	1.04
372.667-038	MERCHANT PATROLLER	181	182	0.99
355.674-014	NURSE AIDE	2,797	1,097	2.55
359.677-018	NURSERY SCHOOL ATTENDANT	400	289	1.38
355.674-018	ORDERLY	85	12	7.08
317.684-014	PANTRY GOODS MAKER	40	63	0.63
355.354-010	PHYSICAL THERAPY AIDE	41	7	5.86
375.263-014	POLICE OFFICER 1	163	6	27.17
375.367-010	POLICE OFFICER 2	34	0	-
355.377-014	PSYCHIATRIC AIDE	398	71	5.61
369.384-014	RUG CLEANER, HAND	16	36	0.44
317.384-010	SALAD MAKER	6	38	0.16
317.684-018	SANDWICH MAKER	4	30	0.13
369.477-014	SERVICE-ESTABLISHMENT ATTENDANT	3	25	0.12
381.137-010	SUPERVISOR, JANITORIAL SERVICES	68	22	3.09
344.677-014	USHER	12	58	0.21
311.477-030	WAITER/WAITRESS	3,606	2,459	1.47
311.477-018	WAITER/WAITRESS, BAR	122	159	0.77
301.687-018	YARD WORKER	638	101	6.32
	TOTAL FOR SERVICES	**33,932**	**18,699**	**1.81**
AGRICULTURAL				
410.674-010	ANIMAL CARETAKER	151	75	2.01

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409.683-010	FARM-MACHINE OPERATOR	25	4	6.25
401.161-010	FARMER, CASH GRAIN	29	0	-
421.161-010	FARMER, GENERAL	312	37	8.43
407.663-010	FARMWORKER, DIVERSIFIED CROPS 1	25	9	2.78
421.683-010	FARMWORKER, GENERAL 1	842	200	4.21
421.687-010	FARMWORKER, GENERAL 2	295	50	5.90
401.687-010	FARMWORKER, GRAIN	5,844	148	39.49
410.664-010	FARMWORKER, LIVESTOCK	129	114	1.13
406.684-014	GROUNDSKEEPER, INDUSTRIAL-COMMERCIAL	145	100	1.45
406.687-010	GROUNDSKEEPER, PARKS AND GROUNDS	753	100	7.53
405.684-014	HORTICULTURAL WORKER 1	48	12	4.00
405.687-014	HORTICULTURAL WORKER 2	145	73	1.99
408.687-014	LABORER, LANDSCAPE	139	70	1.99
408.161-010	LANDSCAPE GARDENER	99	33	3.00
408.684-010	LAWN-SERVICE WORKER	40	93	0.43
451.687-018	SEEDLING PULLER	79	0	-
408.664-010	TREE TRIMMER	25	48	0.52
409.687-018	WEEDER-THINNER	68	22	3.09
	TOTAL FOR AGRICULTURAL	9,571	1,356	7.06
PROCESSING				
525.687-010	ANIMAL EVISCERATOR	183	5	36.60
526.381-010	BAKER	116	94	1.23
526.686-010	BAKER HELPER	79	144	0.55
529.687-010	BASKET FILLER	49	19	2.58
579.380-010	BOARD-MACHINE SET-UP OPERATOR	381	19	20.05
525.684-010	BONER, MEAT	968	893	1.08
529.686-010	BUNDLES HANGER	25	0	-
525.381-014	BUTCHER, ALL-ROUND	107	266	0.40
529.686-014	CANNERY WORKER	240	306	0.78

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529.687-030	CASING SEWER	80	81	0.99
559.382-018	CHEMICAL OPERATOR 3	100	26	3.85
526.381-026	COOK, KETTLE	4	26	0.15
526.684-010	DOUGHNUT MAKER	23	37	0.62
529.686-030	EGG WASHER, MACHINE	18	64	0.28
589.687-022	FABRIC-LAY-OUT WORKER	0	29	0.00
529.686-034	FACTORY HELPER	49	1	49.00
519.687-022	FOUNDRY WORKER, GENERAL	369	265	1.39
525.687-038	HIDE HANDLER	3	25	0.12
556.382-014	INJECTION-MOLDING-MACHINE OPERATOR	85	4	21.25
556.685-038	INJECTION-MOLDING-MACHINE TENDER	35	16	2.19
509.686-010	LABORER, GENERAL METAL	1,166	226	5.16
559.567-010	LABORER, GENERAL PLASTICS	34	33	1.03
559.686-026	LABORER, GENERAL RUBBER	170	1,363	0.12
579.667-010	LABORER, GENERAL BRICK & TILE	20	42	0.48
529.687-130	LABORER, SLAUGHTERING & MEAT PACKING	3,646	1,693	2.15
573.685-026	LEHR TENDER	4	62	0.06
520.685-166	MIXING-MACHINE OPERATOR	3	30	0.10
525.687-070	POULTRY DRESSER	51	124	0.41
525.687-074	POULTRY EVISCERATOR	41	52	0.79
529.686-070	PRODUCTION HELPER	902	343	2.63
529.387-030	QUALITY-CONTROL TECHNICIAN	34	4	8.50
503.687-010	SANDBLASTER	21	32	0.66
529.687-186	SORTER, AGRICULTURAL PRODUCE	315	13	24.23
525.687-114	STUNNER, ANIMAL	48	2	24.00
525.684-054	TRIMMER, MEAT	70	50	1.40
	TOTAL FOR PROCESSING	10,684	7,070	1.51
MACHINE TRADES				
620.281-010	AIR-CONDITIONING MECHANIC	26	7	3.71

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621.281-014	AIRFRAME-AND-POWER-PLANT MECHANIC	72	3	24.00
620.261-010	AUTOMOBILE MECHANIC	2,116	541	3.91
620.684-014	AUTOMOBILE-MECHANIC HELPER	312	63	4.95
620.261-018	AUTOMOBILE-REPAIR-SERVICE ESTIMATOR	36	26	1.38
620.261-030	AUTOMOBILE-SERVICE-STATION MECHANIC	31	15	2.07
609.685-010	BALL SORTER	39	26	1.50
653.685-010	BINDERY WORKER	96	22	4.36
617.360-010	BRAKE OPERATOR 1	38	14	2.71
660.280-010	CABINETMAKER	66	29	2.28
652.382-010	CLOTH PRINTER	28	4	7.00
620.261-022	CONSTRUCTION-EQUIPMENT MECHANIC	72	40	1.80
651.362-010	CYLINDER-PRESS OPERATOR	39	54	0.72
625.281-010	DIESEL MECHANIC	438	118	3.71
606.682-014	DRILL-PRESS OPERATOR	57	5	11.40
637.261-014	ENVIRONMENTAL-CONTROL-SYSTEM INSTALLER-S	216	70	3.09
624.281-010	FARM-EQUIPMENT MECHANIC 1	94	26	3.62
637.261-018	GAS-APPLIANCE SERVICER	55	16	3.44
603.685-062	GRINDER OPERATOR, PRODUCTION	52	6	8.67
609.684-010	INSPECTOR, GENERAL	94	9	10.44
619.261-010	INSPECTOR, METAL FABRICATING	30	3	10.00
609.684-014	LABORER, GENERAL	1,510	223	6.77
604.362-010	LATHE OPERATOR, NUMERICAL CONTROL	27	29	0.93
604.685-026	LATHE OPERATOR, PRODUCTION	54	26	2.08
616.360-018	MACHINE OPERATOR 1	1,348	460	2.93
619.685-062	MACHINE OPERATOR 2	322	183	1.76
649.685-070	MACHINE OPERATOR, GENERAL	157	67	2.34
626.281-010	MACHINE REPAIRER, MAINTENANCE	86	35	2.46
600.380-018	MACHINE SET-UP OPERATOR	339	167	2.03
600.280-022	MACHINIST	905	527	1.72
669.380-014	MACHINIST, WOOD	34	22	1.55
600.280-042	MAINTENANCE MACHINIST	75	11	6.82
638.281-014	MAINTENANCE MECHANIC	805	180	4.47
620.281-050	MECHANIC, INDUSTRIAL TRUCK	134	41	3.27

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619.360-014	METAL FABRICATOR	18	41	0.44
619.686-022	METAL-FABRICATING-SHOP HELPER	154	235	0.66
638.281-018	MILLWRIGHT	109	18	6.06
620.281-054	MOTORCYCLE REPAIRER	44	12	3.67
616.360-026	MULTI-OPERATION-FORMING-MACHINE OPERATOR	29	23	1.26
609.662-010	NUMERICAL-CONTROL-MACHINE OPERATOR	124	52	2.38
633.281-018	OFFICE-MACHINE SERVICER	33	19	1.74
651.482-010	OFFSET-PRESS OPERATOR 1	184	95	1.94
617.260-010	PRESS OPERATOR, HEAVY DUTY	83	57	1.46
651.380-010	PRINTER 2	89	41	2.17
699.130-010	PRODUCTION SUPERVISOR	53	3	17.67
609.685-018	PRODUCTION-MACHINE TENDER	2,896	541	5.35
615.482-022	PUNCH-PRESS OPERATOR 1	89	52	1.71
615.685-030	PUNCH-PRESS OPERATOR 2	62	7	8.86
615.482-026	PUNCH-PRESS OPERATOR, AUTOMATIC	29	0	-
637.261-026	REFRIGERATION MECHANIC	30	6	5.00
604.685-034	SCREW-MACHINE OPERATOR, PRODUCTION	27	30	0.90
615.482-034	SHEAR OPERATOR 1	43	10	4.30
625.281-034	SMALL-ENGINE MECHANIC	111	51	2.18
620.131-014	SUPERVISOR, GARAGE	29	7	4.14
601.280-046	TOOL-AND-DIE MAKER	110	64	1.72
620.281-058	TRACTOR MECHANIC	28	16	1.75
	TOTAL FOR MACHINE TRADES	15,905	5,304	3.00
BENCH WORK				
706.684-010	AIR-CONDITIONING-COIL ASSEMBLER	55	0	-
785.261-010	ALTERATION TAILOR	30	29	1.03
723.584-010	APPLIANCE REPAIRER	41	12	3.42
739.684-010	ARTIFICIAL-CANDY MAKER	0	25	0.00
706.361-010	ASSEMBLER	412	23	17.91

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706.684-014	ASSEMBLER	51	0	-
733.685-010	ASSEMBLER	200	151	1.32
754.684-010	ASSEMBLER	9	46	0.20
762.684-014	ASSEMBLER, COMPONENT	0	26	0.00
727.687-022	ASSEMBLER, DRY CELL AND BATTERY	4	70	0.06
729.687-010	ASSEMBLER, ELECTRICAL ACCESSORIES 1	153	60	2.55
728.384-010	ASSEMBLER, ELECTRICAL WIRE GROUP	26	98	0.27
709.684-014	ASSEMBLER, METAL FURNITURE	6	101	0.06
706.684-018	ASSEMBLER, PRODUCT	440	132	3.33
706.687-010	ASSEMBLER, PRODUCTION	15,279	3,001	5.09
706.684-022	ASSEMBLER, SMALL PARTS	257	76	3.38
739.687-030	ASSEMBLER, SMALL PRODUCTS	807	251	3.22
700.687-010	BENCH WORKER, HOLLOW HANDLE	29	0	-
728.684-010	CABLE MAKER	195	59	3.31
700.687-022	CASTER HELPER	52	0	-
706.687-014	CLUTCH INSPECTOR	37	0	-
724.684-026	COIL WINDER	19	39	0.49
700.687-030	CUTCH CLEANER	25	0	-
712.381-018	DENTAL-LABORATORY TECHNICIAN	30	11	2.73
726.684-014	ELECTRONIC-SCALE SUBASSEMBLER	37	1	37.00
726.684-018	ELECTRONICS ASSEMBLER	615	197	3.12
726.281-014	ELECTRONICS TESTER 1	61	2	30.50
780.684-062	FABRICATOR, FOAM RUBBER	42	0	-
706.687-018	FAN-BLADE ALINER	29	0	-
763.684-038	FURNITURE ASSEMBLER	17	36	0.47
705.684-030	GRINDER-CHIPPER 1	49	18	2.72
705.687-010	JIGGER	225	3	75.00
705.687-014	LABORER, GRINDING AND POLISHING	1,978	230	8.60
740.684-022	PAINTER, BRUSH	105	15	7.00
741.684-026	PAINTER, SPRAY 1	250	68	3.68
741.687-018	PAINTER, SPRAY 2	71	27	2.63
706.687-030	PUSH-CONNECTOR ASSEMBLER	79	0	-

JOB OPENINGS AND APPLICANTS BY OCCUPATION JAN 1, 1988 - DEC 31, 1988
STATE OF IOWA

DOT CODE	TITLE	AVAILABLE APPLICANTS 1/	AVAILABLE OPENINGS	APPLICANT/ OPENING RATIO 2/
759.584-010	RUBBER-GOODS INSPECTOR-TESTER	22	37	0.59
761.682-014	SANDER, MACHINE	25	23	1.09
787.682-046	SEWING-MACHINE OPERATOR	536	559	0.96
787.682-062	SEWING-MACHINE OPERATOR	9	33	0.27
720.281-018	TELEVISION-AND-RADIO REPAIRER	36	9	4.00
750.384-010	TIRE BUILDER, AUTOMOBILE	24	49	0.49
731.687-034	TOY ASSEMBLER	4	305	0.01
763.684-078	WICKER WORKER	66	242	0.27
769.687-054	WOODWORKING-SHOP HAND	200	155	1.29
	TOTAL FOR BENCH WORK	23,895	6,871	3.48
	STRUCTURAL WORK			
860.381-010	ACOUSTICAL CARPENTER	39	3	13.00
806.684-010	ASSEMBLER, AUTOMOBILE	58	8	7.25
806.684-018	ASSEMBLER, CAMPER	122	433	0.28
807.381-010	AUTOMOBILE-BODY REPAIRER	627	175	3.58
807.687-010	AUTOMOBILE-BODY-REPAIRER HELPER	72	19	3.79
869.687-010	AWNING-HANGER HELPER	69	4	17.25
899.684-010	BONDACTOR-MACHINE OPERATOR	28	2	14.00
861.381-018	BRICKLAYER	69	24	2.88
850.683-010	BULLDOZER OPERATOR 1	91	17	5.35
860.381-022	CARPENTER	1,591	500	3.18
860.381-026	CARPENTER APPRENTICE	90	16	5.63
860.664-010	CARPENTER 1	28	43	0.65
860.281-010	CARPENTER, MAINTENANCE	48	7	6.86
860.381-042	CARPENTER, ROUGH	341	111	3.07
864.381-010	CARPET LAYER	58	18	3.22
844.364-010	CEMENT MASON	237	73	3.25
869.664-010	CONCRETE-BUILDING ASSEMBLER	155	45	3.44
869.131-014	CONCRETING SUPERVISOR	25	7	3.57

JOB OPENINGS AND APPLICANTS BY OCCUPATION JAN 1, 1988 - DEC 31, 1988
STATE OF IOWA

DOT CODE	TITLE	AVAILABLE APPLICANTS 1/	AVAILABLE OPENINGS	APPLICANT/ OPENING RATIO 2/
869.664-014	CONSTRUCTION WORKER	7,088	1,607	4.41
842.381-010	DRY-WALL APPLICATOR	76	19	4.00
824.281-014	ELECTRIC-DISTRIBUTION CHECKER	30	16	1.88
829.281-014	ELECTRICAL REPAIRER	151	49	3.08
827.261-010	ELECTRICAL-APPLIANCE SERVICER	22	25	0.88
824.261-010	ELECTRICIAN	630	176	3.58
824.261-014	ELECTRICIAN APPRENTICE	94	27	3.48
829.684-022	ELECTRICIAN HELPER	112	20	5.60
828.281-010	ELECTRONICS MECHANIC	711	72	9.88
809.381-010	FABRICATOR-ASSEMBLER, METAL PRODUCTS	31	203	0.15
869.687-030	FURNACE-INSTALLER-AND-REPAIRER HELPER, H	133	38	3.50
865.381-010	GLAZIER	38	3	12.67
809.684-026	GRINDER-CHIPPER 2	26	19	1.37
899.684-014	HIGHWAY-MAINTENANCE WORKER	574	97	5.92
899.381-010	MAINTENANCE REPAIRER, BUILDING	1,530	324	4.72
899.281-014	MAINTENANCE REPAIRER, FACTORY OR MILL	443	110	4.03
891.137-010	MAINTENANCE SUPERVISOR	60	25	2.40
899.684-022	MAINTENANCE-REPAIRER HELPER, FACTORY OR	42	11	3.82
859.683-010	OPERATING ENGINEER	1,020	93	10.97
859.683-014	OPERATING-ENGINEER APPRENTICE	42	3	14.00
840.381-010	PAINTER	539	111	4.86
862.381-018	PIPE FITTER	123	38	3.24
862.381-030	PLUMBER	224	62	3.61
862.381-034	PLUMBER APPRENTICE	31	12	2.58
850.683-030	POWER-SHOVEL OPERATOR	75	23	3.26
822.281-022	PRIVATE-BRANCH-EXCHANGE REPAIRER	26	2	13.00
801.684-022	PROGRESSIVE ASSEMBLER AND FITTER	128	2	64.00
866.381-010	ROOFER	461	176	2.62
804.281-010	SHEET-METAL WORKER	153	76	2.01
863.684-014	SIDER	37	26	1.42
801.361-014	STRUCTURAL-STEEL WORKER	59	1	59.00
860.131-018	SUPERVISOR, CARPENTERS	29	8	3.63
869.567-010	SURVEYOR HELPER	90	67	1.34

JOB OPENINGS AND APPLICANTS BY OCCUPATION JAN 1, 1988 - DEC 31, 1988
STATE OF IOWA

DOT CODE	TITLE	AVAILABLE APPLICANTS 1/	AVAILABLE OPENINGS	APPLICANT/ OPENING RATIO 2/
919.687-014	CLEANER 2	116	222	0.52
920.587-010	CLOTH-BOLT BANDER	18	27	0.67
900.683-010	CONCRETE-MIXING-TRUCK DRIVER	41	29	1.41
921.683-026	CONVEYOR OPERATOR	25	7	3.57
902.683-010	DUMP-TRUCK DRIVER	132	116	1.14
906.683-010	FOOD-SERVICE DRIVER	37	13	2.85
909.687-010	GARBAGE COLLECTOR	30	22	1.36
905.663-010	GARBAGE COLLECTOR DRIVER	106	36	2.94
979.382-018	GRAPHIC ARTS TECHNICIAN	46	13	3.54
921.683-050	INDUSTRIAL-TRUCK OPERATOR	1,459	71	20.55
929.687-014	KILN DRAWER	21	33	0.64
929.687-022	LABORER, SALVAGE	57	44	1.30
922.687-058	LABORER, STORES	4,708	1,081	4.36
914.667-010	LOADER 1	39	4	9.75
915.687-018	LUBRICATION SERVICER	14	69	0.20
920.687-126	MARKER 2	3	25	0.12
929.687-030	MATERIAL HANDLER	9,441	2,363	4.00
921.133-018	MATERIAL-HANDLING SUPERVISOR	40	4	10.00
920.587-018	PACKAGER, HAND	1,028	338	3.04
920.685-078	PACKAGER, MACHINE	153	49	3.12
920.687-134	PACKER, AGRICULTURAL PRODUCE	4	39	0.10
915.687-022	PORTER, USED-CAR LOT	17	61	0.28
952.382-018	POWER-PLANT OPERATOR	158	11	14.36
921.685-050	PRODUCTION-SUPPLY-EQUIPMENT TENDER	58	19	3.05
979.684-034	SCREEN PRINTER	27	10	2.70
950.382-026	STATIONARY ENGINEER	75	11	6.82
950.382-030	STATIONARY-ENGINEER APPRENTICE	52	1	52.00
913.463-018	TAXI DRIVER	17	28	0.61
913.367-010	TAXICAB STARTER	46	8	5.75
915.684-010	TIRE REPAIRER	92	132	0.70
919.663-026	TOW-TRUCK OPERATOR	19	32	0.59
910.682-010	TRACK REPAIRER	53	35	1.51
904.383-010	TRACTOR-TRAILER-TRUCK DRIVER	3,038	997	3.05

JOB OPENINGS AND APPLICANTS BY OCCUPATION JAN 1, 1968 - DEC 31, 1968
STATE OF IOWA

DOT CODE	TITLE	AVAILABLE APPLICANTS 1/	AVAILABLE OPENINGS	APPLICANT/ OPENING RATIO 2/
821.281-010	TELEVISION-CABLE INSTALLER	36	25	1.44
816.464-010	THERMAL CUTTER, HAND 1	17	27	0.63
807.281-010	TRUCK-BODY BUILDER	25	21	1.19
810.384-010	WELDER APPRENTICE, ARC	100	10	10.00
819.381-010	WELDER-ASSEMBLER	19	27	0.70
819.361-010	WELDER-FITTER	42	17	2.47
810.384-014	WELDER, ARC	930	267	3.48
819.384-010	WELDER, COMBINATION	1,008	201	5.01
811.684-014	WELDER, GAS	25	18	1.39
819.684-010	WELDER, PRODUCTION LINE	755	345	2.19
810.684-010	WELDER, TACK	37	1	37.00
812.682-010	WELDING-MACHINE OPERATOR, RESISTANCE	7	107	0.07
	TOTAL FOR STRUCTURAL WORK	**23,009**	**6,801**	**3.39**
	MISCELLANEOUS			
915.687-034	AUTOMOBILE DETAILER	24	34	0.71
915.477-010	AUTOMOBILE-SELF-SERVE-SERVICE-STATION AT	103	84	1.23
915.467-010	AUTOMOBILE-SERVICE-STATION ATTENDANT	412	273	1.51
920.687-014	BAGGER	83	75	1.11
929.686-010	BAKERY WORKER	27	14	1.93
920.685-010	BALING-MACHINE TENDER	15	27	0.56
922.687-010	BIN FILLER	60	2	30.00
921.685-010	BOAT LOADER 2	15	31	0.48
911.131-010	BOATSWAIN	163	0	-
950.382-010	BOILER OPERATOR	43	5	8.60
910.364-010	BRAKER, PASSENGER TRAIN	29	26	1.12
921.663-010	BRIDGE-OR-GANTRY-CRANE OPERATOR	32	3	10.67
921.685-014	BULL-CHAIN OPERATOR	3	48	0.06
913.463-010	BUS DRIVER	184	136	1.35
915.667-010	CAR-WASH ATTENDANT, AUTOMATIC	4	54	0.07

JOB OPENINGS AND APPLICANTS BY OCCUPATION JAN 1, 1988 - DEC 31, 1988
STATE OF IOWA

DOT CODE	TITLE	AVAILABLE APPLICANTS 1/	AVAILABLE OPENINGS	APPLICANT/ OPENING RATIO 2/
905.663-014	TRUCK DRIVER, HEAVY	2,793	480	5.82
906.683-022	TRUCK DRIVER, LIGHT	1,129	389	2.90
905.687-010	TRUCK-DRIVER HELPER	54	12	4.50
905.663-018	VAN DRIVER	42	41	1.02
905.687-014	VAN-DRIVER HELPER	26	20	1.30
929.137-022	WAREHOUSE SUPERVISOR	198	14	14.14
955.362-010	WASTEWATER-TREATMENT-PLANT OPERATOR	26	3	8.67
	TOTAL FOR MISCELLANEOUS	27,833	8,209	3.39
	GRAND TOTAL	226,203	79,384	2.85

1/ INCLUDES APPLICANTS WHO WERE REGISTERED WITH JOB SERVICE OF IOWA DURING THE YEAR ENDING DEC 31, 1988. ONLY OCCUPATIONS WITH A MINIMUM OF TWENTY-FIVE APPLICANTS OR TWENTY-FIVE OPENINGS ARE INCLUDED IN THE DETAIL LISTING, ALTHOUGH ALL OCCUPATIONS HAVE BEEN ADDED INTO THE TOTALS.

2/ THE NUMBER OF APPLICANTS AVAILABLE FOR EACH OPENING DURING THE QUARTER

SOURCE: LABOR MARKET INFORMATION UNIT, IOWA DEPARTMENT OF EMPLOYMENT SERVICES

APPENDIX C

LABOR MARKET INFORMATION PRODUCTS

LABOR FORCE, EMPLOYMENT AND UNEMPLOYMENT INFORMATION

Contains Labor force, unemployment and employment data by labor area; Industry employment by labor area

Available Monthly for State, MSA's and counties

Contact Ann Wagner (515) 281-8182
Steve Ford (515) 281-5197

LABOR MARKET INFORMATION FOR SERVICE DELIVERY AREAS

Contains Characteristics of Job Service applicants;
Openings and applicants by occupation'
Job openings by industry;
Nonagricultural wage and salary employment;
Labor force and unemployment;
Characteristics of the insured unemployed

Available Quarterly for the 16 Service Delivery Areas

Contact Steve Ford (515) 281-5197
Jone Culp (515) 281-8183

WAGE SURVEYS

Contains Wage information by occupation - averages, ranges and frequency distribution

Available Annually for State;
As requested by local users for substate areas

Contact Jim Gillaspey (515) 281-8179

LABOR MARKET INFORMATION FOR AFFIRMATIVE ACTION PROGRAMS

Contains Population by sex and minority (1980);
Employment status by sex and minority status for previous calendar year;
Occupational attachment of the labor force by race, sex and EEO category (1980);
Occupation of Job Service applicants

Available Annually for State, MSA's, counties and selected cities

Contact Jone Culp (515) 281-8183

LABOR MARKET INFORMATION FOR IOWA

Contains Characteristics of Iowa's Labor Force;
Developments in Employment by Industry;
Projections in Employment by Occupation;
Labor Supply/Demand Data through Division of Job Service
Number of Openings and Applicants
Major Factors Affecting Iowa's Economy;

Available Annually for State

Contact Bob Van Every (515) 242-5862

INDUSTRY/OCCUPATIONAL PROJECTIONS

Contains Occupational projections for the nonagricultural wage and salary component of employment

Available Annually for State and the 16 Service Delivery Areas

Contact Bob Van Every (515) 242-5862

UNEMPLOYMENT BY OCCUPATION

Contains Estimated labor force, employment, number of employed, and unemployment rates for selected occupations

Available Annually for the State and each Service Delivery Area (in one publication)

Contact Mike Blank (515) 242-5861

IOWA OCCUPATIONAL PLANNING GUIDE

Contains A list of occupations ranked by specific vocational preparation (SVP) time, number of Job Service applicants and openings, projected openings for the state and each Service Delivery Area, and average hourly wages. Also includes Classification of Instructional Programs (CIP) codes and titles for these occupations, anticipated program completers and the results of the Department of Education Student Interest Survey for each of these CIP programs.

Available Annually for the State and each Service Delivery Area (in one publication)

Contact Mike Blank (515) 242-5861

IOWA LABOR SUPPLY/DEMAND ANALYSIS

Contains	Job openings and applicants by occupation; Job openings by industry; Characteristics of Job Insurance recipients; Appendix contains labor supply and demand for selected local offices	
Available	Quarterly for State	
Contact	Steve Ford	(515) 281-5197

LABOR MARKET INFORMATION DIRECTORY

Contains	General information on LMI products prepared by the Iowa Department of Employment Services. Also includes labor force concepts and economic terms essential to understanding employment and unemployment trends.	
Available	Revised as necessary	
Contact	Ann Wagner	(515) 281-8182

HOURS AND EARNINGS FOR PRODUCTION WORKERS

Contains	Average weekly earnings, average weekly hours and average hourly earnings for production workers in manufacturing	
Available	Monthly for State and MSA's that contain the cities of Cedar Rapids, Davenport, Des Moines, Dubuque, Sioux City and Waterloo	
Contact	Albert Johnson: Dubuque, Cedar Rapids, Des Moines	(515) 281-4264
	Rita Lundy: Iowa City, Council Bluffs, Waterloo/Cedar Falls	(515) 281-5754
	Bhasker Sumanth: Davenport, Sioux City	(515) 242-5867
	Bill Voyce: Statewide	(515) 281-3895

202 SUMMARY TABLES

Contains	Employment and wage data by industry (tabulated from Quarterly Employer's Payroll and Contribution Report - IESC-21)	
Available	Quarterly for State and all Iowa counties	
Contact	Bob Schutt	(515) 281-8178

JOB INSURANCE BENEFITS

Contains	Number of weeks compensated and amount of benefits paid under the state and federal unemployment insurance programs	
Available	Monthly for State and all Iowa counties	
Contact	Bob Schutt	(515) 281-8178